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PART FIRST.

ORIGINAL COMMUNICATIONS.

ART. II.—*Difficult Cases of Labor.* By GEORGE T. ELLIOT, Jr., M.D., Physician to Bellevue Hospital, and to the Nursery and Child's Hospital. New York.

Albuminuria—Uterine Fibrous Tumors—Early Rupture of Membranes—Rigid Os—Douche—Chloroform—Incision of Cervix—Forceps—Death—Extraordinary Post-mortem Appearances—Child Born Alive—Its Fate.—Mrs. E——, a primipara, aged 26, well built, very cheerful, and believed by herself and friends to be in the enjoyment of good health, came under my care on the 20th of November last. I at once recognized the evidences of albuminuria. Extremely puffy face; hands and arms which would not pit on pressure, but still appeared swelled, as were also the feet; constant headache; eyesight disturbed by flashes of light, muscæ volitantes, and blurred outlines; thought that the quantity of urine had diminished somewhat of late; bowels confined; had menstruated for the last time on the 28th of February.

Some of the urine, passed on the following morning, became almost solid by the application of heat and nitric acid. Microscopical examination neglected. By my orders, she was cupped over the kidneys, placed on the use of Tarant's Selzer Aperient, and directed to send some of her urine for examination, on the 27th. At this time, I requested the husband to call at my office, where I tested some of his wife's urine in his presence, compared the results with some healthy urine, and mentioned my apprehensions of puerperal convulsions.

On the 29th, received two specimens of urine, the one passed on the morning of the 28th, after a quiet night, the other on the 29th, after a very restless night, in which, to use the husband's words, "there was an apparently uncontrollable emission of water mixed with blood." This, which was, without doubt, liquor amnii, had probably become mixed with the specimen of the 29th, as it evidently contained blood. The specimen of the 28th contained less albumen than the one previously tested.

On visiting her, found that the headache and amaurotic symptoms were persistent, and that so much effect had not been produced on the bowels as was desirable. She was very cheerful, had no pain, face decidedly less swelled: left after desiring that she might have a cathartic, and that the nurse should be sent for, as I anticipated labor.

Labor.—At 3 A.M. of the 30th, was summoned, as the nurse thought that the child would soon be born. Found her with extremely powerful uterine contractions, which, then and later on, would last thirty, thirty-five, and forty seconds by the watch; liquor amnii dribbling away constantly; patient excited, very restless, and bearing down with her pains; os uteri very little dilated, rigid, and less dilatable than any which I can call to mind; head presenting, but position not then determined; fœtal heart, however, decidedly to the right side below the umbilicus, and therefore concluded that the position was the 2d of Naegelé; which was subsequently ascertained to be the fact. Pelvis well formed.

On examining the abdomen, found a hard tumor at about the junction of the left iliac and umbilical regions. It seemed about the length of the forefinger, with a firm pedicle. This, on examination, I decided to be a fibrous uterine outgrowth, and mentioned to the husband and others the likelihood of another on the posterior wall.

The uterine contractions continued as vigorous as ever, slowly forcing the head and cervix towards the pelvic cavity, but without any effect on the os; so I used the warm water douche in the manner elsewhere described by me in this Journal, and repeated the same three times during the day, but with no effect.

Told the patient that I would give her chloroform, but would not promise that its influence should be kept up until the labor had terminated. In the afternoon she consented to take it for two or three hours, during which time she slept peacefully, with no abatement of the uterine contractions.

At about half-past seven in the evening, the pulse, which had been rather slow, was becoming somewhat excited; bodily

and mental restlessness extreme; uterus long since drained of its waters, with the os as undilatable as it had been for twenty hours, slightly lacerated on the left side, and down in the cavity of the pelvis; fœtal heart beating; perineum rigid.

I then told the husband that, in my judgment, this had gone far enough; that, fortunately, and, as I believed, from prophylactic treatment, convulsions had not occurred, but that the albuminuria still overshadowed her; that the rigidity of the os was such, in my judgment, as clearly to indicate the propriety for its division; that, considering the position of the head, it would probably be better to terminate delivery with forceps, and suggested a consultation.

Consultation.—Professor Barker became associated with me in the management of the case, and saw her at about half-past nine, when she was well under chloroform. He recognized every point which had been made, and warmly approved the measures proposed.

Operations.—Dr. Schermerhorn having kindly given his assistance, I divided the cervix, with Simpson's uterotome, on the right side, opposite the slight laceration referred to. Dr. Barker agreed with me in thinking that I might introduce the forceps through this opening, which was about the same as in a case of incised os, recorded by Dr. I. E. Taylor in the *Medical Times.*

The elevation of the head demanded the use of long forceps, and the head, promptly grasped, did not slip during delivery. After an ineffectual attempt to rotate the occiput anteriorly, I delivered a living female child in obedience to the rules for this presentation, and with the usual difficulty. Unfortunately, the patient being drawn up on the bed, unexpectedly to myself, at the moment when about to disengage the face, a laceration of the perineum occurred, which involved a few of the lower fibres of the sphincter.

Condition of child.—Traces of the forceps on the head were very slight, and after plunging the child in hot and cold water alternately, with frictions, slapping, and occasional resort to the "ready method," it cried loudly, and looked well, though extremely thin and puny.

Uterine tumors.—Now the diagnosis of the uterine tumor was shown to be correct, while another and larger one was found springing from the posterior wall, and met with by the right sacro-iliac synchondrosis.

Placenta.—About an hour after delivery, the uterus contracting, and then lazily relaxing over the placenta entirely retained within its cavity, I requested Dr. Barker to ascertain if there was any cause for delay. He found it attached to the

anterior wall, near the fundus, and partly adherent, necessitating careful detachment. He removed it wholly, membranes and all, while I maintained tonic uterine contraction, with my hand over the fundus.

Drs. Barker and Schermerhorn now left me, as the mother and child were doing well, and I remained by the bedside for some time longer with my hand over the fundus, to guard against the possibility of uterine hemorrhage.

Alarming symptoms.—At last, when about to apply the binder, there came a sudden and alarming change in her expression, pulse, temperature, and respiration. The last was slow, jerking, and abdominal, deciding me not to apply the binder, lest it should interfere with the action of the diaphragm; the pulse was alarmingly feeble and slow; the face and extremities very cool; and the general expression so like that of a patient of Professor Gilman's, once seen with him, as to awaken grave anxiety in my mind.

The uterus remained contracted, and no hemorrhage occurred.

Consultation.—Having plenty of assistants, made one hold up both legs, and two others the arms; the head was placed on a level with the trunk; ordered brandy and water with strong frictions, while I kept my hand firmly over the fundus to insure against the possibility of hemorrhage. My assistants could not give the brandy without provoking paroxysms of coughing, and so sent my carriage instantly for Dr. Barker, and, as he was not at home, my friend, Dr. George A. Peters, was brought to the bedside without a moment's delay. He fed her successfully with brandy and she rallied. After these dangerous symptoms had passed, we talked to her of her child, and implored her to calm her restlessness, and keep quiet, but with little avail, for she would flounce from one side to the other, throwing her pelvis clear from the bed.

Dr. Peters stayed with me till 3 A.M, giving her brandy and milk punch, and she continued to improve. Her pulse was good, her intelligence perfect, but her skin was cool and her restlessness very great.

At this time we thought that five drops of Magendie's Solution might calm her excitement, and it was given, when Dr. Peters withdrew. Remained with her till nearly 8 A.M., December 1st, during which time she had some refreshing naps, though I could not say that the morphine had produced any perceptible effect. The uterus remained well contracted, and no hemorrhage had occurred: gave her seven drops more, and left her, after strongly enjoining the necessity for quiet.

Relapse.—By 10 was again with her, just after a sudden change had occurred, similar to that of the previous night. She was perfectly intelligent, very much excited, lying on her left side, and imploring me to allow her to change her position.

Scarcely had I promised to lift her on her back, when she threw herself completely on her right side, raising herself on her heels and shoulders, and her heart never seemed to recover its force from that moment.

Death.—She died immediately after vomiting some brandy, during the prolongation of the agony. With her last words she complained that some brandy seemed to have gone the wrong way. No hemorrhage had taken place; the uterus was firmly contracted.

Post-mortem—Temperature.—According to the register of Mr. E. Meriam, the thermometer marked, on December 1st, at one P.M., 50°; two, 52°; three, 50°; four, 48°; five, 45°; six, 45°; seven, 42°; eight, 40°; nine, 40°; ten, 39°. No observation from eleven P.M, of December 1st, till five A.M., December 2d. Six A.M., 32° (white frost); seven, 32°; eight, 34°; nine, 36°; ten, 40°; eleven, 42°; twelve, 42°.

Examination conducted by Dr. George A. Peters and Professor Van Buren, twenty-seven hours after Mrs. E——'s death. The body had remained on the back, in a room without fire and with the windows open.

Appearances of the body.—So great a change had taken place in this time, as to render the body almost unrecognizable.

The face was greatly swollen by emphysema, and the surface of the body down to mid-leg and to the wrists crepitated in the most marked manner. No post-mortem discoloration of the abdomen; but post-mortem lividity over the back, and greenness of decomposition with bullæ over the lateral aspects of trunk, especially over thorax.

On opening the abdomen there was so great an escape of gases, evolving a strong odor of sulphuretted hydrogen, that we were obliged to open doors and windows. Interior of body yet warm.

Head not examined, by request.

Larynx and *trachea* normal.

Thorax.—Both *pleuræ* universally adherent, nothing of interest noticed in *lungs*. *Heart* normal in size, contained no air in its cavities; no clot in pulmonary artery, (such as terminated the life of the Duchesse de Nemours) apparently fatty, with patches of atheroma along the aorta. Pericardium normal. Blood coagulated.

Abdomen.—No peritonitis, or unusual amount of fluid in

cavity, sub-peritoneal cellular tissue everywhere emphysematous, dissecting off large blebs of peritoneum. On greater curvature of stomach, cellular tissue around gastro-epiploic vessels, so aërated as to simulate distension of the vessels. The *intestines* moderately distended with flatus, crepitated everywhere from emphysema of their sub-peritoneal cellular tissue.

Liver.—Crepitated everywhere to the touch, café au lait in color, and so friable as readily to break down in the necessary manipulations for removal.

Spleen.—Apparently normal, except similar crepitation.

Kidneys.—Excessively soft, crepitating to the touch; their capsules dissected by the emphysema. No marked appearance in one not found in the other.

Uterus.—Firmly contracted, and emphysematous. Removed for examination, together with heart, kidneys, and portion of liver, when they were also submitted to Professor A. Clark and Dr. C. E. Isaacs, and shown to the Pathological Society.

The *uterus* displayed two sub-peritoneal uterine outgrowths, fibrous in character, irregularly shaped, and pediculated; the smaller one, situated on the anterior surface, to the left of the mesian line, about midway between fundus and cervix. The other, posteriorly, to the right of the mesian line, near the junction of the body and cervix. The former measured two inches in length, and three quarters of an inch in width; the latter four inches by two and a quarter. The fundus anteriorly presented a smaller fibrous tumor, the size of a split white bean.

On examining the os uteri from within the vagina, no appearances of sphacelus, nor of laceration extending to peritoneal coat were observable. Traces of the incision were distinguishable, as well as some other slight solutions of continuity, but none of them differing from what may frequently be observed after parturition. On section of the anterior wall through the mesian line, the uterus was found firmly contracted, the cavity contained a clot which was estimated to weigh less than an ounce.

On careful examination the internal surface presented no appearance whatever of injury.

Microscopical examination by Drs. Clark and Isaacs.—*Uterus.* Fibres of inner surface certainly undergoing fatty degeneration. *No evidence of any inflammatory condition.*

Heart.—Studded with patches of atheroma externally and along the aorta. Numerous whitish spots on surface and in muscular tissue, which Dr. Clark supposed to be purulent deposits at first; but, on examination, no pus was found, but granular matter with globules of oil. Muscular structure had

not undergone fatty degeneration, but very soft, the least touch of the scalpel producing a whole microscopic field of fragments.

Liver.—Fatty.

Kidneys.—Dr. Isaacs has furnished me with the following note of their condition.

"In the hottest weather of summer I have often made post-mortem examinations of subjects which had been dead nine or ten days, and wherein the organs were not as much advanced in putrefaction as in the present instance. The liver, kidneys and uterus crepitated strongly under pressure, from the presence of gases among their tissues. The capsule of the kidney was perfectly loose, and separated with the slightest touch. On separating it, the cortical surface exhibited numerous elevations and depressions, as in the cirrhosed kidney. The cortical substance was very much softened, and easily broken down on slight pressure, and gave the same sensation as the lung when this is cut into by the scalpel. On microscopical examination the kidneys were found in an advanced stage of Bright's disease. The malpighian bodies were of various sizes, some of them very small. The fibrous ring of the matrix surrounding them was much thickened. The capillaries of the malpighian tuft contained numerous oil globules, as did also the minute arteries of the cortical substance. The tubes were generally, and in many instances entirely, denuded of their epithelial cells; many of which were disintegrated, or resolved into granular matter. In the numerous specimens which I examined, I could not find anything like healthy structure in the cortical portion. It is an interesting question how far the diseased state of the kidney, and the consequent retention of the elements of the urine in the blood, contributed to the rapid decomposition of the different organs."

Dr. Clark corroborated the statement of Dr. Isaacs, and added that many of the cells in his specimen were loaded with fat. Dr. C. had also made the independent suggestion that the excessively rare degree of softening observed was probably due to some ante-mortem septic influence with which we are not familiar.

The *child* was found to present some paralysis of the portio dura of the left side from pressure of the forceps, which, however, wore away; an accident that has occurred several times in my practice, and never with any unfavorable consequences. As Chailly says, "*Tout le monde sait que cela n'a aucune importance, que quelques jours suffisent pour faire disparaître cet accident.*" A wet-nurse was procured, but it pined, and dwindled away, dying when but a few days old. It presented

no symptoms of disease or injury, but faded away as a puny twin child often does; and I had not the heart to press for a post-mortem examination.

REMARKS. *Albuminuria.*—The relations of the albuminuria to this case are interesting, and I think that there are good grounds for believing that early prophylactic treatment warded off the great danger apprehended from puerperal convulsions; while I am convinced that the marked restlessness (which probably hastened death) was but one of the Protean forms of this subtle poison.

It is to be regretted that microscopic examination of the urine was neglected, as it is likely that the *advanced* disease in the kidneys would have thus been recognized, and a clearer prognosis established; but the impression made on my mind by the appearance of the patient, and her history, led me to classify her with that large group of primiparæ, in whom albuminuria depends on temporary congestion, and disappears so speedily after expulsion of the ovum.

And I dwell on this omission in order to determine those who may take the trouble to read this paper, never to be satisfied in those cases with simple appreciation of albuminuria, and this, notwithstanding the liability to failure in the recognition of advanced disease.

The following case, with the progress of which I was familiar, illustrates this last point so forcibly and bears so directly on all cases similar to that of Mrs. E., that I requested Dr. Van Buren, in whose charge it was, to furnish me with its history.

Illustrative case—Bright's disease—Fatty heart and kidneys.—"Mrs. M. died at the age of 34. In early life she enjoyed florid health; married at 27; had suffered severely from dysmenorrhœa from the age of 20, which was only relieved by division of the cervix uteri, by Simpson, of Edinburgh, four years before her death. She was never pregnant. The symptoms which ushered in her fatal illness, approached insidiously, and advanced gradually and steadily to the end. They consisted of a peculiar irritability of temper; breathlessness, and palpitation of the heart on slight exertion; languor and debility; complete loss of appetite, and progressive emaciation, with a pallid, straw-colored complexion. The disgust for food was excessive; it could only be taken in small quantities, and with much effort on her part; and it caused always great complaint when swallowed, and nausea afterwards. Her pulse during the last six weeks of her life was about 120, and the action of the heart was rendered irregular by the slightest excitement. She complained during this time almost constantly of violent burning pain under the sternum; occasion-

ally numbness of the extremities, and on two or three occasions, had attacks resembling hysteria, in which she thought herself dying. The bowels acted regularly; no thirst; *urine always normal in quantity, and although examined frequently by Dr. A. Clark, who attended her with me in consultation, exhibited at no time any deviation from its natural condition.* Death occurred rather suddenly by syncope.

"*Post-mortem.*—Kidneys presented most unmistakable evidences of Bright's disease in an advanced stage. The liver and heart were both fatty, the latter in an unusual degree; the whole organ being flabby, yellow and mottled, and its columnæ carneæ transversely streaked with yellow bars, and presenting a singular, mackerel-like appearance. On careful microscopical examination, it was impossible to find a specimen of healthy muscular fibre throughout its tissue."

These cases all demonstrate the necessity for post-mortem examinations. The very discovery that in Mrs. E.'s case death could not, under any circumstances, have been delayed, that even, though never pregnant, she probably would not have lived long, is eminently consoling to one assuming such responsibility.

Causes of fatal results after operations, independent of the operation.—I believe that the true statistics of operative midwifery have yet to be written, and that we never can estimate the necessary mortality until we shall possess the data obtainable after death, and the relations of diseased viscera to the result.

What we are content, in many cases, to sum up in the emphatic word "*shock*," and refer to the influence of an operation, might often be referred to internal lesions unappreciated before death; and this fact should stimulate our careful examination of every patient whose labor demands the intervention of art. I remember a case of version, which I perperformed, after which, the woman sank rapidly and died, without, in my judgment, symptoms traceable to else than I could estimate as shock; but the discovery of fatty kidneys, liver and heart, accounted readily, in my mind, for the inability to rally.

It is greatly to be hoped that these accidental complications may in future statistics bear their full share of the responsibility for fatal results, and that the obstetric surgeon may thus gain a clearer knowledge of his risks, a view, indeed, forshadowed by old Portal, in 1685, when speaking of fatal cases in midwifery, from operations which he did not consider as entitled to the blame.

"*Mais si elles meurent, c'est bien souvent la mauvaise habi-*

tude du corps, ou quelque fluxion de la poitrine, comme j'ai remarqué à plusieurs femmes qui estoient mortes en couche, dans le temps que je demeurois à l'Hôtel Dieu de cette ville, leur trouvant les poumons alterez, pourris, ou abscedez."

Rigidity of os.—Early escape of waters was of course the principal cause, but had the fibrous tumors aught to do with this accident? Interfere with muscular force they certainly did not; but may not the tendency to this growth have impaired dilatability of cervix, somewhat as Bennet supposes that chronic induration of the unimpregnated cervix may produce similar results at term?

Incision.—The propriety of incising the rigid os is a question which has not received all the attention which the procedure merits, though there are frequently cases occurring which might be benefited by the operation. Every one who has seen much of midwifery, has seen cases of this class which resist all methods of treatment.

In the present instance, the *douche and chloroform* were relied on, and proved utterly inefficient, though the chloroform was not given as is customary in my practice. Under the peculiar circumstances of the case, and with the prospect of such delay, I was not willing to promise (as I am in the habit of doing) that the patient should not awaken until completion of the labor; and Mrs. E. preferred to await a time until this could be agreed upon. Still the *three hours* or more, during which she was under the influence of the anæsthetic, produced no relaxation whatever, though—as I have said—the uterine contractions were not diminished thereby.

Now what was to be done in a case of this description, where twenty hours of severe, unremitting labor pains had produced no effect—where the liquor amnii was entirely discharged—where the many dangers from albuminuria overshadowed the patient—where the abdomen was becoming tender to the touch?

To have resorted to other means requiring time would have added additional danger from delay—for I firmly believe that risk to both lives is in direct ratio to the lapse of time from escape of waters; and my experience of all methods recommended for overcoming rigidity did not warrant me in anticipating better results from persisting in their use.

Duration of rigidity.—How long the labor might have lasted if unrelieved, or what contingencies might have occurred, may be estimated from the recorded results of similar cases. An example of their obstinacy was published by Dr. Gardner, where the cervix uteri, tightly embracing the child's head, came externally to the vulva, and demanded incision, with a avorable result.

Case illustrating duration of rigidity of os uteri.—During my residence in the Dublin Lying-in Hospital in '49, I was attending a woman in hard labor, whose membranes seemed to me thick, and the sole cause of delay. Dr. Shekleton disclosed my error to me, and showed me that what I took for membranes, was the thinned and expanded cervix, and that the os uteri was a little dimpled depression, difficult to find. This woman, instead of being promptly delivered, as I anticipated, remained in labor several days. But in this and many such cases *delay was of minor importance, for the membranes were intact.*

Plan pursued by nature.—What does nature do in so large a proportion of these cases where the os uteri dilates sufficiently to permit passage of the head, with some injury to structure? She lacerates the os and cervix. Sometimes when the latter was œdematous before this occurrence, its thick edges even cause anxiety to beginners.

I firmly believe that there are many cases of rigidity in which we will derive benefit from thus imitating nature more frequently than we do. I have, in several cases of emergency, applied forceps within the cervix where dilatation had not been fully completed, and lacerated the os purposely in withdrawing the head, just as nature would have done had she completed the delivery herself; and this because I preferred the lacerated to the incised wound. Yet it would seem that there is little risk from the incision, since it is an operation steadily gaining the confidence of those availing themselves of its advantages.

A necessary caution.—One point must always be borne in mind, viz.: the necessity for carefully examining lest any large vessel should be pulsating in the line of the proposed incision. It happened on one occasion, at least, to Dubois, that he had such hemorrhage from a divided vessel, as to demand immediate forceps delivery for the mother's sake.

Occipito posterior presentations.—One of the difficulties in this case was the failure to rotate the occiput anteriorly, notwithstanding my strenuous efforts. I firmly believe that nature herself does this in the vast proportion of these original presentations, and also believe that the alteration may be frequently made, if the practitioner do not use a forceps with too large blades of too great pelvic curvature. Simpson's were applied in this instance, and with them I have succeeded in thus simplifying delivery.

Case of occipito-posterior presentation.—In one of my cases, however, seen with Dr. Metcalfe, the position was not recognized, and the primipara suffered bad laceration of the

perineum from the delivery of a boy weighing over thirteen pounds. The difficulties of that case were such, however, as would probably have rendered the conversion impossible, and this view is confirmed by the fact that the lady has since given birth to a child, weighing a little over twelve pounds, after a severe labor, unassisted by art, with the occiput thrown into the hollow of the sacrum, and sweeping the perineum, which had united satisfactorily.

"May my children," said the father, "die as they were born—looking upwards."

Post-mortem decomposition.—The rarity of these appearances may be surmised from the fact, that no similar case was alluded to in the discussion of the specimens at the Pathological Society; and I have not since had the leisure to look up the subject. It is noticeable that the intestines, while presenting the appearances described, yet had not undergone the changes described by Dr. Lynn, in Rankin, for January to June, 1856; nor, indeed, did the condition of the uterus present any similarity with that of the parts operated on in those military hospitals.

Case.— Woman deserted by her physician—Child dead—Uterus distended with gases— Version—Death.—The following meagre details are all that I possess of a case unique in my experience.

During my residence in the Lying-in Asylum I was sent for on one occasion by Dr. Pulling, to see a patient in the last stages of exhaustion from protracted labor. She had been deserted by the practitioner who had undertaken the case, and then Dr. Pulling was summoned. My friend Dr. Isaacs happened to be with me, and accompanied me. We found the patient with all the symptoms attending extreme exhaustion—child dead, with head presenting and floating above the linea ileo-pectinea. The *uterine tumor* was markedly tympanitic, all the waters had escaped; pelvis ample. The uterine walls were so distended that the child floated in these gases, as though in the liquor amnii.

Under these peculiar circumstances decided to perform version, as it seemed to me that this could be performed with great ease, and no delay. My expectations were verified. Do not think that I ever turned more readily, not even with the second twin. While disengaging the head inhaled a quantity of such fœtid gases escaping from the uterus, that I was obliged to give up the management of the placenta, and retire gasping and retching to a neighboring window. The woman died within the twenty-four hours. No post-mortem obtained. The child was not emphysematous, nor very putrid.

REMARKS.—This is by no means the only case that I have seen where a practitioner has waited for the natural termination of labor, until such alarming symptoms have presented themselves as to frighten him away from his patient. The condition of a large class of our poor is deplorable in the trying hour of parturition; and I can truly say that I do not believe that malapraxis is so rife in any other department of the profession. To steer that happy medium between criminal neglect and criminal rashness is, indeed, difficult in many cases, even for the enlightened and conscientious physician. But what can be hoped from a class of male and female practitioners, who are profoundly ignorant of the principles and practice of obstetrics, who attend cases for the fee alone, and who do not hesitate to desert a woman from mean and ignoble apprehension of injury to their reputation from a fatal result; sometimes running away, and sometimes absenting themselves with specious excuses.

Case.—Tedious labor—Forceps—Safety to mother and child—Novel views of uterine hemorrhage.—The proficiency of a certain class may be illustrated by this example. Recently I was sent for to Yorkville, to deliver a woman who had been in labor two or three days, and took with me my friend Dr. Reuben Cobb, of N. C., then one of the house physicians in Bellevue. We found a woman in a deplorable condition, with nasty green vaginal discharge, and greatly swelled vulva, but with the fœtal heart audible, and head presenting in the superior strait, with the movement of descent not yet completed. Dr. C. brought her under the influence of chloroform, and I delivered her of a living child, which did well, as did also the mother.

Before leaving, I took the midwife into another room, to ask what she would do if flooding should occur. With much blarney, and approval of my operation, she replied, "Sure, darlint, and I niver fear that, at all at all. I just goes into the garden, and takes a bit of clay about as large as the palm of my hand, and puts it on the pit of the stomach, in the name of the Father, Son, and Holy Ghost."

Seeing that this act of simple faith was all that this poor woman had to rely on, we thought it advisable to administer a good dose of ergot before leaving.

Case.—Neglected transverse presentation—Version—Death.—This same midwife subsequently sent for me to attend a poor woman under her care, from whose vulva the arm of a dead child had been allowed to protrude for twenty-four hours. Version was effected without the slightest difficulty after

Dr. George A. Peters had brought her under chloroform—but she sank within twenty-four hours.

Case.—Deformed pelvis—Forceps—Death from perforation of uterus by sacral promontory—Child died two days after from apoplexy.—The report of this case is principally in the words of Dr. Geo. S. Hardaway, House Physician, then in charge of the lying-in wards.

Hannah McGuire; æt. 18; Irish; primipara; married (?); taken with labor pains at 7 A.M., Jan. 16th, 1858. At 8 A.M. examined by Dr. Hardaway, who noticed that the pains were weak, head presenting, and entirely above the ileo-pectineal line; os soft, and had not yet commenced to dilate. Pelvis somewhat under size, but difficulty therefrom not anticipated. Labor progressed slowly until 9 P.M., when membranes ruptured, and most of the waters escaped. Os then larger than a Spanish dollar, and dilatable. Anterior fontanelle felt on the right side of the pelvis—sagittal suture passing transversely to the left—posterior fontanelle not recognized. Fœtal heart distinct in left iliac fossa. Pains continued throughout the night, but were not strong. At 11.30 P.M. she was brought under the influence of chloroform, and after this, though the pains continued, she remained comfortable until 3.30 A.M., when she began again to suffer with the pains. She vomited frequently, and had an unnatural stare.

Contraction of the antero-posterior diameter of the brim was thought to be the cause of the delay. 7.30 A.M., Jan. 17th. Countenance has changed very much since labor set in. It is pinched, expressive of anxiety, and she looks much older. Head has made no advance. Vagina moist and cool. Pulse about one hundred.

My visit.—At this time I was sent for, and saw the patient before meeting with Dr. Hardaway, or hearing the report of her condition during the night. I had, however, seen her in the ward on the previous day, though without having had my attention especially directed to her. I was much struck by the change in her countenance just described. Her pulse at 9.30 was 120; her abdomen a little tender; vagina cool, moist, and the discharge perfectly normal. Os uteri, in my judgment, sufficiently dilatable for any mode of delivery. Head resting above ileo-pectineal line, and detained there by diminution of the antero-posterior diameter of the brim. Sufficiently movable for version or any operation. Fœtal heart beating.

The impression made on me was that delivery was called for imperatively, and I preferred the use of forceps.

Consultation.—In the consultation which followed a difference of opinion arose, contraction of the brim not

being admitted as the cause of the delay, which was attributed mainly to feebleness of the pains. After urging my views strongly I deferred, and acquiesced in the exhibition of ergot, which was given to the extent of twelve grains, in four doses, by which time its specific effect began to appear.

At 3 P.M., or about four hours after the first dose, the woman's condition was not improved. She vomited more and looked badly. The temperature of the vagina was little altered, the discharge was perfectly natural, the head now pressed more firmly in the brim. Immediate delivery was considered advisable.

Operation.—She was brought under the influence of chloroform, by Dr. Andrews, and I proceeded to apply forceps. The first blade passed rapidly in front of the left sacro-iliac synchondrosis, the other, without difficulty, behind the right acetabulum, allowing an interval for a long uterine contraction. They did not slip, and I rapidly drew the head through the brim, rotated the occiput anteriorly, and delivered a living male child, weighing six pounds, without lacerating the posterior fourchette.

In separating the os uteri for the introduction of the first blade, I felt a warm stream on my fingers, and, holding them up, showed them to be covered with a darkish fluid, no trace of which had previously been met with in the vagina.

The placenta gave no trouble.

Appearance of Child.—The head of the child presented a deep indentation opposite the fronto-parietal suture of the left side, where it had been pressed against the promontory of the sacrum, and that bi-parietal diameter was additionally lessened by a slighter depression at the opposite point, confirming the diagnosis of deformity at the brim.

Subsequent management.—A bandage of oiled silk was now applied under the binder: ℥j of whisky, with gr. ss of morphia given, the patient removed to another ward, and ordered $\frac{1}{8}$ gr. every hour until she slept: but she only got four doses during the night. She slept some, but not well, and vomited frequently.

January 18th.—When seen in the morning by Dr. H. she was not vomiting, and was given ss gr. of morphia, which she showed no disposition to reject. Pulse, 134. Respiration entirely thoracic, great tenderness over the abdomen with tympanitis. Ordered $\frac{1}{4}$ gr. every hour.

10½ A.M.—I saw her when she was gulping up everything she swallowed. Ordered Emp. Vesic. 6×6 to abdomen, and that she should be brought under the influence of opium.

To check her vomiting Dr. H. gave her gtt. xv. of hydrocy-

anic acid, in four doses, half an hour apart, without any influence on the regurgitation. She was given one grain of morphia every hour, per rectum, and it was attempted to vesicate the epigastrium by Granville's Lotion, in order to apply morphia endermically: but the lotion was not good, and did not vesicate till 5 P.M., when a grain was applied to the blistered surface. At 1 P.M. the pulse was 144.

9 P.M.—Pulse 176. Respiration 34, entirely thoracic, constantly regurgitating, even the pellets of ice, which were alone given by the mouth. Under the influence of opium, bore strong pressure over the abdomen without complaining, moved herself in bed without pain; said that she suffered none; pupils contracted; wandering a little in her mind. Lochia had ceased, for which a warm poultice had been applied to the vulva.

11 P.M.—Regurgitation has ceased, having only brought up one mouthful since 9 o'clock. Pulse 160, scarcely possible to count it at the wrist. Respiration 36. Moaning.

Until 1 A.M. (19th) she continued to take one grain of morphia per rectum every hour, with no effect on the respiration, which continued about the same until death. The pulse could not be counted at the wrist after midnight; after which time she was quiet; did not vomit any more. Died, 3.15 A.M., 19th.

The child seemed likely to do well, but sank and died on the night of the 19th.

Post-mortem by Dr. Lambert, one of the senior assistant physicians, 29 hours after death.

Body well nourished; cadaveric rigidity well marked; greenish yellow discharge from the nose and mouth; no discharge from the vagina.

Head not examined. *Chest*: Lungs healthy; right slightly adherent laterally and posteriorly; heart weighed about 9 oz., tissue firm, valves healthy, right auricle and ventricle moderately distended with blood, left auricle and ventricle nearly empty.

Abdomen contained about two gallons of a turbid brownish fluid; near the symphysis pubis there were also several flakes of false membrane. *Intestines* moderately congested, no signs of general peritonitis being present. *Liver* rather soft, and apparently fatty, as indeed it proved to be under the microscope. *Kidneys* presented no appearance of interest, microscopic or otherwise. In the left iliac fossa there was an abundant infiltration of lymph.

Uterus. This was removed entire, and taken by me to Prof. Clark for examination. It presented externally no marked evidences of peritonitis, and was firmly contracted.

In the median line posteriorly, just above the junction of body with the cervix, was a perforation about the size and shape of the button-hole of a waiscoat. The edges were clean. Extending downward from this in the mesian line of the posterior wall, *internally*, for about one inch, was a solution of continuity, involving about one third of the thickness of the organ. Anteriorly in the mesian line was a loss of structure, similar in character, but less extensive. The uterine sinuses displayed coagulated blood when laid open.

No other injury to structure was observable, and these were, it will be noticed, just at the points where pressure was experienced from the head on the promontory and symphysis.

Microscopical examination.—Careful examination by Dr. Clark, decided these solutions of continuity to have resulted from pressure and not from laceration, and therefore there was true perforation (not rupture) from death of tissue. The fluid lining the inner uterine wall, displayed pus, under the microscope, and on carefully removing some fluid from the uterine sinuses, with clean instruments, and from fresh incisions, perfectly formed pus globules were found in great numbers. To the naked eye, these sinuses did not appear to contain pus.

Beneath the peritoneal covering of the broad ligaments, in places pointed out by Dr. Clark, pus was detected with the microscope. On dividing the fallopian tube, pus could be readily squeezed from the cut end.

Pelvis.—This, with the uterus, was shown to the Pathological Society, and proved to present the recognized deformity. The antero-posterior diameter of the brim, measuring three inches; *and the promontory being noticeably sharp*, as well as turned a little to the right.

Post-mortem examination of child.—In removing the scalp, a portion (about two inches in diameter), overlaying the external angular process of the frontal bone, and parts adjacent, which had been pressed against the sacrum, was found infiltrated with blood. Rather less than one drachm of blood was effused between the dura mater and the upper part of this (the left) parietal bone. Dura mater not markedly congested. Pia mater congested. On removing the brain, a large clot of blood, weighing about one and a half ounces, was discovered beneath the cerebrum on the left side, encroaching on the cerebellum.

REMARKS.—Among the interesting questions connected with this case, there is no one more so to me than the consideration when the destruction of uterine tissue commenced? There is always an impression left on the mind of an observer which he conveys with difficulty to a reader, and I have the belief that

the symptoms present on the morning of the 17th denoted commencement of this injury, and called loudly for immediate delivery. And also that the effect of the ergot in the case, *per se*, would not have been sufficient to have alone determined this accident. Although the exhibition of this medicine did not obtain my hearty concurrence, on account of the dangers signalized by Dr. Trask, in this deformity, as well as from my dislike to any delay, yet I recognized the bare possibility of this additional force moulding the head through the pelvis.

Diagnostic value of uterine discharges.—It is to be hoped that in the progress of science, the value of these dark-brown, green, and olive-green uterine discharges will be duly estimated, whether they indicate the commencement of endo-metritis, and how far it is desirable to allow them to proceed? I cannot recall a case where the vaginal discharge was so healthy, the uterine discharge so different, and the recognition only effected after the os had been well separated from the head for the operation.

If the operation could have been decided upon when first proposed, I was decidedly in favor of delivery with forceps, from a growing reluctance to substitute pelvic for cranial presentations, and from a growing doubt whether the reasoning of Dr. Simpson, in favor of diminished danger to fœtal life thereby, will stand the test of time.

Mode of delivery.—In the present case, a towel was well secured between the handles, so as to obviate compression, and the traces of the instrument were very slight; the operation not very difficult, and as it will be noticed, the blades were applied over the left brow and the right occipito-parietal region, clearing completely the well-marked depressions described, under which so much effusion took place.

How readily these effusions may occur, can be seen in the case of premature labor, recorded by me in a recent number of this Journal.

Case.—Forceps—Puerperal fever—Bronchitis—Death from uterine hemorrhage 11½ *days after delivery—Child did well.*—The following report is prepared from the notes of Drs. J. R. Buist, of S. C., and Dr. Geo. S. Hardaway, of Ga., now House Physicians in Bellevue Hospital:

Mary Conroy, aged 26, unmarried, fell in labor at 5, A.M., Oct. 28th, 1857. The second stage lasted eighteen hours, and during the last fifteen, the head was retained in the brim by the promontory. The pains were and had been efficient; head in first position; olive-green discharge from vagina; fœtal heart beating very rapidly.

Operation.—Under these circumstances, Dr. Buist sent for me, and the woman having been brought under the influence of chloroform, I delivered her with forceps of a living child, weighing ten pounds, twenty-nine hours after commencement of labor. *The child subsequently did well.*

Subsequent management of case.—October 31st.—Until to-day the woman's condition has been satisfactory; but now lochia suppressed, tender abdomen, flushed face, frequent pulse, moist tongue.

Dr. Buist ordered turpentine stupe to abdomen, and warm fomentations to vulva.

November 1st.—Chill, pulse 135; skin hot and dry. Quarter of a grain of the sulphate of morphia, and ten drops of the tincture of veratrum viride every two hours.

Nov. 2d.—Better in forenoon, but in the afternoon pulse again became very frequent, and she appeared much worse. Medicines had been continued; 6 P.M., transferred to the fever ward; service of Dr. Macready. At this time she had dusky flush of face; pulse 140; respiration 36, thoracic; tongue dry and coated brown; abdomen immensely distended, and very tender to the touch; lochia very fœtid; no secretion of milk; lips dry and cracked, sordes on teeth, loose green discharges from the bowels.

Ordered, opium one grain, quinine two grains, every two hours, with ten drops of the tincture of the chloride of iron, at the intermediate hour. Whisky, ʒss. every hour. Diet, beef-tea, and soft-boiled eggs.

Nov. 3d.—Tongue not so dry, otherwise condition about the same. A blister 6 × 8 applied to abdomen, and then dressed with mercurial ointment. 5 P.M., pulse 134; tongue moist; diarrhœa checked.

Nov. 4th.—Forenoon, pulse 130. Patient did not like the whisky; Madeira wine substituted. 5 P.M., pulse 140, tongue dry, no lochial discharge. ʒss. wine every half hour.

Nov. 5th.—Pulse 124; respiration 26; tongue dry. Very restless, wanted to sit up; slightly ptyalised. 6 P.M., pulse 140. Nates and lower part of back red and much irritated by the discharges, as though bed sores were about to form.

Nov. 6th.—Looks something better. Wine not being good, ordered in its stead ʒss. brandy in milk every hour. Reddened skin, painted with collodion. Simple cerate substituted for mercurial ointment. Other treatment continued.

Nov. 7th.—Pulse 124; tongue dry.

Nov. 8th.—Pulse 128. Patient does not look so well, and has considerable bronchitis. Brandy, ʒss. in milk punch, every half hour. Turpentine stupes to chest. Other treatment continued. The natural lochial discharge has reappeared.

Nov. 9th.—Pulse 124; tongue dry; respiration natural. Patient looks better. Bowels opened for the first time in two days.

Afternoon.—Lochial discharge rather free, though not considered as an unfavorable symptom.

4.40 P.M.—Dr. Hardaway sent for, as the patient had a chill; pulse 200.

5 P.M., pulse 180, Verat. Viride, gtt. x.; 6.30, pulse 140, V. V. gtt. x.; 7.30, pulse 124, V. V. gtt. x.; 8.30, pulse 128, V. V. gtt. x.

Death.—8.45 P.M.—Dr. Hardaway was called to the patient, and found her blanched and pulseless. There was uterine hemorrhage, and the blood had run to the foot of the bed, and on to the floor. The vagina was plugged, but she died almost immediately.

The excitement of pulse which came on in the afternoon, seemed to be of a nervous character, and not associated with any renewed inflammatory action. An autopsy could not be obtained.

REMARKS.—The interesting paper on secondary uterine hemorrhage by Dr. T. F. Cock, published in the July number of this Journal, may be referred to with advantage in connection with this subject. Without the data obtainable from post-mortem examination, it would be useless to theorize on the causes of this untoward and rare accident, without the supervention of which it was considered probable that the danger had mostly passed, and that the patient bade fair to recover.

It is certain, however, that there was no reason for assuming that it arose from any retained portion of placenta, membranes or clot.

43 West Thirty-second street.

ART. II.—*Report of a Case of Hydrophobia, with Remarks.* By GEO. A. PETERS, M.D., Physician to the Nursery and Child's Hospital, etc., N. Y.

ON Thursday, May 21, 1857, at 4½ o'clock, P.M., I was requested by Mr. A. to visit his coachman, whom he said was suffering from rheumatism.

On reaching the house I found John S——n; born in England; æt. 39 years; height, 5 feet 8 inches; average weight, 156 pounds; ruddy complexion; a bountiful head of black hair; eyes dark; giving the impression of a stout, hearty man. Had been six years a resident in this country, and had always borne a good character for sobriety and evenness of temper.

On being questioned, he complained of what he called "rheumatism pains," in his right arm, shoulder, neck and chest. These pains he described as paroxysmal and lancinating in their character. The joints were not swollen, and upon further investigation, I found that the pain followed pretty accurately the course of the median nerve from the wrist upward, and was quite severe in the axilla and at the nape of the neck, where there was tenderness on pressure over the fifth cervical vertebra. The spot where the pain was most intense, was upon the anterior portion of the chest, immediately to the right of the sternum; extending over a space of about the size of the palm of the hand, from the clavicle downwards. There was no glandular swelling in the axilla. The pulse was 84 beats in the minute; respiration 40; tongue moist, and slightly coated; breath offensive; expression of the eye brilliant; pupil natural, and acting well; mind clear, and manner quite composed; answering all questions intelligently and with readiness.

On further inquiry, I found that he first complained of pain in the neighborhood of the right wrist, on Wednesday, May 20th, immediately after returning from the butcher's shop, where they had been discussing the case of a young gentleman in the neighborhood, who had been recently bitten by a dog, supposed to have been mad. At that time he threw himself down upon a bench in the kitchen, and said that he felt pain in the situation indicated above, where he had been bitten by a dog, in the latter part of August, 1856. No attention was paid to his complaints, and during the balance of the day, he attended to his duties. Wednesday night he was restless and not able to sleep well, complaining of these pains in the arm and shoulder; he also found himself unable to swallow water without bringing on a spasm, and a sensation as of impending suffocation; experienced the same difficulty with tea and coffee.

On the morning of Thursday, he fed his horses, but was unable to use a pitchfork, on account of a lameness of the right arm. After having attended to this duty he retired to his bed, the pain and discomfort increasing throughout the day, and the attempt to swallow water still exciting the same spasmodic action, until the afternoon, when I first saw him.

I now presented to him water in a tumbler, but he appeared very apprehensive, and said, positively, that he would not attempt to drink from the glass. I then offered him some in a teaspoon, and after much persuasion he clutched it convulsively, and with great difficulty swallowed a little. Blowing gently in his face, excited these same paroxysms, as did also touching his face lightly with my fingers. He was able to

bear the full light of day streaming through the windows, and was not annoyed by the reflection from a mirror which hung upon the wall opposite his bed. Neither rustling of paper, nor the pouring of water from one vessel into another excited him.

Recognizing rabies, I requested Mr. A. to send again for his family physician, Dr. Abram Du Bois, and as the patient's bowels had not been moved for two days, I gave him five compound cathartic pills.

Dr. Du Bois arrived at 8 o'clock P.M., and after investigation, confirmed my diagnosis, and we agreed to attend the case together.

On the anterior surface of the right forearm, two inches above the wrist-joint, we found a simple white linear cicatrix, about an inch in length; we also found another one of about half that size, and similar in appearance, upon the posterior aspect of the limb, just above the styloid process of the ulna. I immediately incised freely these two cicatrices, and cauterized with nitric acid. The reflection from the bright blade of the knife excited spasm, although the incision and application of the acid caused no complaint.

A grain of opium was then given him, in the form of a pill, and we determined to push the anodyne during the night.

At 10 o'clock P.M., I saw him again, and administered one grain of the sulphate of morphia, rubbed up with sugar, and placed dry upon the tongue. Also ordered a blister, 3×3 inches, over the epigastrium, so that we might have a surface for the endermic application of morphia, if he should reject its exhibition by the mouth. Ordered him beef-jelly for nourishment.

Visit, 12 o'clock, midnight; pulse 84; respiration 28. Has taken since 8 o'clock, three one-grain pills of opium, and one grain of the sulphate of morphia. Pupils not affected. Ordered the pills to be continued every hour or two hours, according to the effect produced. His wife states that when about to apply the blister, she attempted to wash the surface with a sponge and water, but was obliged to desist, as it threw him into a violent spasm. Has rather an anxious look, and complains of an increased secretion of saliva, the effort to swallow which (for as yet he does not expectorate), causes a partial spasm.

Visit, Friday, May 22d, 5 o'clock A.M.; pulse 76; respiration 28. Since my last visit, has taken five one-grain pills of opium, but has had scarcely any sleep; only an occasional doze, the longest of which was this morning between three and four o'clock, when he slept for fifteen minutes. Pupils not contracted; surface of skin rather warmer than before. Respi-

ration will go along quietly for a short time, and then there will be a sob or catch. Noticed for the first time, while feeling his pulse, a short spasm, accompanied by forcible expectoration. During the night he drank, with much difficulty, four teaspoonfuls of water. Complains of great pain and stiffness of the neck and under the angle of the jaw. Administered another grain of sulphate of morphia, and ordered a grain pill of opium to be given every hour.

Visit 10 o'clock, A.M. Dr. Du Bois present. Pulse 88—full and of good volume. Respiration 24. Tongue still lightly coated, and breath offensive. Since my visit at 5 o'clock, he had taken three opium pills. Wife says he has slept quietly for half an hour. The disease is evidently progressing. The spasms are of longer duration, and more easily excited. They are now induced by the pouring of water and by the reflection from the surface of a mirror.

Holding the hand so as to shade the eye for an examination of the pupil, brings on a decided spasm, and excites him to anger. As yet, the rustling of paper produces no effect upon him.

Ordered a half grain of the sulphate of morphia every hour. The blister is raised and dressed with unguentum basilicon, to keep it open. Bowels have been lightly moved twice. No meteorism.

Visit 2½ o'clock, P.M. Pulse 84, hard and incompressible. Respiration 29. Spasm produced by the effort to protrude the tongue for inspection. While I was present, he had one short spasm, with expectoration. His wife says that he has had two similar ones this forenoon. Pupils more contracted and sluggish. Has had a quiet sleep for twenty minutes. Says that the powders make him "flighty" when he attempts to doze. Has taken some of the beef-jelly, but when it is presented in a spoon, he has a spasm, and receives it into his mouth with difficulty. He expresses himself by saying that after it gets into the back part of the mouth, he swallows easily enough.

Urine, fair in quantity, but turbid; brought away a specimen for examination. Has taken, since last visit, two and a half grains of sulphate of morphia.

Visit, 5½ P.M. Pulse 104. Respiration 22. Manner more excited; has been talking wildly since last visit. Complains of noises in the street. Has had one spasm, with expectoration. Both sterno-mastoid muscles tense and hard. Since last visit, has taken one and a half grains of sulphate of morphia.

Visit, 8 P.M. Drs. Du Bois and Alonzo Clark, present. Pulse 124. Respiration 20. Manner quite excited. Has taken one and a half grains of sulphate of morphia since last visit. As

the spasms seemed chiefly respiratory, at the suggestion of Dr. Clark, a blister to the nape of the neck was ordered. Rigidity of sterno-mastoid muscles scarcely observable. Spasmodic action much less marked than at the previous visit; the pouring of water failed to excite it, and a spoonful of jelly offered to him was swallowed with more ease than at any time during the previous twenty-four hours.

Visit, 11½ P.M. Pulse 144, feeble, but exhibits no irregularity in its rhythm. Respiration so convulsed and interrupted, that I could not count it. Since last visit, has been very uneasy, tossing upon the bed, and expressing a desire to walk about the room. Pupils more decidedly contracted; adnata injected. Countenance flushed; face and neck bathed in perspiration; palms moist; the surface of the rest of the body hot and dry. Tongue thickly coated with a white fur. Countenance anxious; muscles of the neck soft and natural to the feel. Intervals between the paroxysms of choking very brief. Speaks in an abrupt, jerking way. Says he has no pain anywhere, and shall be able to go to work to-morrow. Is continually spitting up tough, frothy mucus, and imagines that if he should lie back upon his pillow, the accumulation in his throat would choke him. Has taken one and a half grains of sulphate of morphia since last visit.

Saturday, May 23.—Visit, 2½ A.M. Was called out of bed to see him. Soon after last visit, he became greatly excited, and very restless, was kept in bed with difficulty and by much persuasion. His mind is occupied with an infinite variety of fancies. Treats those about him rudely, and then immediately apologizes. Pulse very small and rapid, cannot be counted owing to his continual jactitation. Constant spasmodic spitting of mucus, in large quantity. There is also frequent vomiting of coffee-ground material, coming up in gulps, several ounces at a time. Pupils dilated and oscillating. Since last visit has taken one and a half grains of sulphate of morphia, but now refuses to take any more, neither can he take nourishment. Milk-punch offered to him, brought on an epileptiform convulsion of short duration. All the above symptoms increased in intensity, and at 5 A.M. he became much offended with me; I left him to procure rest. From 2½ to 5 o'clock about two grains of morphia were sprinkled upon the blistered surface. He complained of no pain.

Returned to him at 9 A.M. During my absence, he had had two or three epileptiform convulsions; was perfectly rational; said that I had returned just in time to see him die; that he was very glad to see me; thanked me for my attention; and begged pardon for his rudeness. Was now seized with a con-

vulsion, extreme dilatation of the pupils, frothing at the mouth, and carpo-pedal spasms.

The convulsion passed over him, and he died quietly and with a placid expression of countenance at 9¼ o'clock A.M.

For good and sufficient reasons, no post-mortem examination was obtained. This I regret, because without it the case is less complete.

Prof. Alonzo Clark was kind enough to examine critically the matter vomited, and also the urine. The following is his report:

"*Matter vomited* was of a deep green color, slightly flocculent and viscid. It furnished, on standing, an abundant sediment. The sedimentary matter consisted of, 1st, abundance of oil globules, large and small; 2d, fine granular matter; 3d, a great number of small cells, but little larger than blood corpuscles (from the deep crypts of the stomach), some of which were fatty, some granular; 4th, other cells of two and three times the diameter of the last, nearly all granular; still others from œsophagus and mouth, but there was no columnar epithelium from the free surface of the stomach; 5th, a considerable number of small bodies which look like contracted and deformed blood corpuscles; 6th, a few unaltered blood corpuscles; 7th, hematoidine in three different forms—globular aggregations of a deep brown color; amorphous aggregations also deep brown, and the black pliable scales of small size; 8th, some hematine partly diffused and partly staining the cells above named.

"Acetic acid produces no important changes in any of these constituents, except the unaltered blood corpuscles. The reaction of the fluid was acid.

"*The urine* had an acid reaction after standing two days. It gave a very intense brownish red color when treated with excess of nitric acid. The quantity was not enough to permit the specific gravity to be taken. Boiling produced a cloudiness which disappeared on the addition of nitric acid. Ammonia also produced a cloudiness, showing that the phosphates were abundant, though not perhaps excessive. The precipitated sediment contained no casts, and no complete kidney cells, either healthy or diseased; but nuclei from some of these cells were seen. It contained some large flat epithelium from the bladder, and a few oil globules. The saline constituents were lozenge shaped crystals of uric acid, urate of ammonia, and a few crystals of oxalate of lime. An abundance of non-beaded, thready, unbranched vegetable growth, wavy and coiled, was rapidly produced in the fluid."

This case occurred under circumstances peculiarly favorable

for observing the cause, symptoms, progress, and duration of the disease. It has fallen to my lot to have observed five cases of hydrophobia, four of which have been in hospitals, where the noise and bustle, occasioned by the frequent visits of those curious to see this rare disease, must unavoidably greatly excite the patient, and frequently hurry on the fatal termination.

Our patient, however, was, from the first, sedulously guarded from all extraneous causes of excitement; was kept in a large airy apartment, into which none were allowed to enter, except those actually required to administer to his wants. His wife, to whom he appeared greatly attached, was with him constantly. During the progress of his malady, we were enabled to arrive at several interesting facts.

He was bitten by a strange dog, in the latter part of August, 1856. Of the subsequent history of the dog, nothing definite is known. The wound was very slight; he called upon a physician, who, after allowing it to bleed freely, dressed it with adhesive plaster, and it healed by first intention.

The affair caused him no uneasiness, and it escaped his mind, until the recollection of it was revived by the circumstances mentioned at the commencement of the narrative. Fear, therefore, appears to have been the active exciting cause, although it is a singular fact that, until within a few hours of his death, his mind was hopeful; and, although the cicatrices were incised, he appeared to think that they had no connection with his attack, and continually cheered his wife with the assurance that he should soon recover. Never but once did he inquire whether we had any suspicion that he was suffering from hydrophobia, and seemed very willing to receive the evasive answer given. Towards the last, however, he became despondent, and spent much of his time in prayer and exhortation.

The period of incubation extended over about nine months. The average duration of this period, as shown by the tables, is from the fourth to the fourteenth week after inoculation. No visible change had taken place in the cicatrices, nor did we observe any appearance of inflamed absorbents radiating from them; he merely complained of intense shooting pain, commencing in their neighborhood and extending upwards.

As early as the Monday preceding his seizure, he was observed to be somewhat "nervous in his manner," and replied sharply to a reasonable request. He also expressed great unwillingness to wash the carriage after returning from a muddy drive, but was unable to give any reason for it, except that he did not feel comfortable while working in

the water. On the night of Wednesday he began to be very restless and excited, and was unable, as we see by the record, to swallow water without exciting spasm. We may, therefore, consider the prodromic stage as extending over a period of from two to three days.

Of the symptoms present in this case, the most marked was the spasmodic action of the muscles about the neck and chest, brought on by the effort to swallow fluids; solids also provoked this same action, although to a much less extent; as did also various manipulations described in the notes. Except in the very last stage of the disease, when the epileptiform convulsions supervened, the spasmodic action did not attack the limbs, for in some of his severest paroxysms he would spring from the bed and cling to some object in the room, as if for protection. Did not complain of excessive thirst. At no time did the patient give utterance to any sound which might be compared to the barking of a dog, nor did he show any disposition to injure those about him. He was not delirious, except during the last hours of his life, and then only for a few moments at a time. His insomnia was intense, and the anodynes, administered in large quantities, procured for him but little sleep.

The vomiting which occurred in this case, I also find mentioned in several recorded cases, although the text-books do not, I believe, allude to it. The analysis of the fluid vomited will be found appended to this report.

The disease may be said to have declared itself during the night of Wednesday, the 20th. Consequently, its duration may be fairly estimated at about sixty hours.

During its entire continuance, we allowed his wife full and free communication with him, even to imprinting a farewell kiss upon his lips, believing that no harm would follow, as there is stated to be no well-authenticated instance on record of the communication of this disease by man to man.

With reference to the treatment I would say a few words. Unfortunately, proper prophylactic treatment—such as excision of the wounds, the application of cupping-glasses, and strong cauterization—had been neglected in this case. These means, when thoroughly carried out at an early period after the inoculation of the virus, very generally succeed, by completely removing the nidus of the poison. Knowing from our own observation, and the recorded experience of others, how varied, and how uniformly ineffectual has been the treatment employed in this disease, we determined to avoid all complicated and heroic methods, and simply to push the use of opium to an extent which, if possible, should control the intense nervous excitement and induce sleep.

The quantity given during the thirty-seven hours in which he was under treatment, was ten and a half grains of the sulphate of morphia, and eleven grains of solid opium, administered by the mouth; after which, two grains of morphia were used endermically. As I superintended in person the administration of most of the above quantity, I am enabled to say that comparatively little of it was rejected by the stomach. We see that this amount of anodyne produced but little sleep, although I doubt not that its exhibition, together with the absolute quiet which was observed, added much to his comfort and diminished his sufferings.

I should have been disposed to recommend the inhalation of the vapor of chloroform, had not the knowledge of its effects, in the last case of hydrophobia which came under my notice, convinced me that it were safer to allow a patient to die from the disease than to incur the hazard of killing him with the remedy.

Through the kindness of my friend, Dr. George T. Elliot, Jr., I am enabled to present his notes of a case seen by us at the hospital nearly ten years ago.

"An Irishman, aged thirty-two, a plasterer by trade, was admitted into the New York Hospital on Monday, October 23, 1848. He had been bitten by a dog in the month of February last, in both thumbs. The animal was instantly killed by his master, although he had not exhibited any symptoms of hydrophobia. One of the wounds healed kindly, but an abscess formed in the other thumb. Since that time he has experienced pain at intervals in the cicatrices. He is emaciated, of an irritable constitution, and has been much excited of late by a dispute with his employer.

"On Friday evening, October 20th, he was attacked with symptoms of catarrh and sore throat, which gradually augmented in severity, till on Sunday evening he suffered from a sense of constriction across the chest, and while at the tea-table, first evinced the characteristic antipathy to liquids.

"He was admitted into the house the next morning, and was treated for the catarrh. The liquor ammonia acetatis was prescribed, but it was impossible to induce him to take more than one or two doses. Enemata of assafœtida were then resorted to, the true condition of affairs being surmised.

"Saw him on Tuesday, the 24th, when he was rational, but with an anxious and restless look. His pulse was good; appeared to be conscious of the terrific nature of his malady, and to be endeavoring to solace himself with the conviction that it was but 'nervousness,' and chancing to overhear a gentleman questioned as to the time when the wound had been inflicted, he hurriedly exclaimed, 'Don't mention it for God's sake!'

"By his side was a plate containing some solid food, of which he had been sparingly partaking, and a bowl of soup, by the proximity of which he did not appear to be affected.

"At intervals he would be disturbed by an effort at deglutition, which resembled that of one endeavoring to refrain from vomiting. The viscidity of the mucous secretion of the mouth and fauces was evidently increased, and he would endeavor at intervals to expectorate it by hawking.

"He was not agitated by a draught of air, nor by reflected light, though the temperature of the room, and the tempered light, prevented him from experiencing much of either.

"One of the gentlemen present offered him a spoonful of the soup, when the dysphagic effort increased in frequency and difficulty, while the head was averted and the hands elevated, as though to motion away some dread apparition; and on the gentleman's persistence, he fairly threw the clothes from the bed and hurriedly endeavored to arise, but on being calmly reasoned with and coaxed, he swallowed, with much effort, a spoonful at a gulp.

"During the previous night he had been very restless, alarmed, and unwilling to be left alone. He was very talkative to-day, and foamed at the mouth, as I have been informed. In the evening there was a remission of the symptoms, and he suffered his body to be partially sponged. But continuing to sink, he died on Wednesday, the 26th, at 9 A.M., having vomited some matter resembling coffee-grounds a short time before.

"An autopsy revealed the viscera in a healthy condition, though there was slight congestion of the encephalon and the medulla spinalis."

In this case the period of incubation was about eight months. No efficient prophylactic treatment was adopted at any time during that period, although he frequently complained of pain in the cicatrices. The prodromes lasted from Friday evening to Saturday evening, a period of two days.

On Sunday evening unmistakable signs of the disease were present; thus we have the duration of the disease about sixty hours.

In these two cases the prodromic stages, and the duration of the disease, were nearly identical. In both, also, the vomiting of "coffee-ground material" is observed, and if my recollection serves me, the same phenomenon was present in all the cases which I have seen.

270 Fifth Avenue.

ART. III.—*Two Cases of Exsection for Caries.* By C. E. ISAACS, M.D., Consulting Surgeon to King's County and Blackwell's Island Hospitals.

Case 1.—*Caries of the lower third of the fibula—Exsection of that portion of the bone—Recovery.*—M——, a girl eighteen years of age, of scrofulous constitution, an inmate of King's County Hospital, came under my notice on the 15th of August, 1857. She had suffered almost constant pain for several months, in the lower and outer part of the right leg. On examination, I found this much discolored and swollen, and presenting several pouting, fistulous orifices, from which was discharged a serous, curdy, and offensive pus. On passing a probe into these sinuses, I could easily detect diseased bone at various points, corresponding to the course of the fibula. The pain in the part gradually increased until the patient, at first reluctant, at length consented to an operation for the removal of the diseased bone. On the 22d of August, assisted by Dr. Turner, Resident Physician of the hospital, and Drs. Ghent and Farley (the patient having been placed under the influence of ether), I made an incision directly over, and parallel with, the longitudinal axis of the fibula, commencing just above the junction of the lower with the middle third of the bone, and completely down to its surface. The muscles and other soft parts were separated from around the bone, and this was then sawn through by a small straight saw, which was passed underneath it, and made to cut from below upwards. The bone was thus divided at the junction of the lower with the middle third of the fibula. The external malleolus was much enlarged from ossific masses and spiculæ, which projected from its outer surface. The interosseous ligaments, and those connecting the malleolus to the astragalus and os calcis, were then divided, and the lower third of the fibula completely removed. By this procedure, the ankle joint was necessarily opened to a large extent, and the lateral, smooth, polished surface of the astragalus, which articulates with the external malleolus, was exposed. The portion of the fibula removed was entirely carious, with the exception of the articulating surface of the lower part of the fibula, and which is naturally opposed to that of the astragalus. This was in a normal condition. The hemorrhage was inconsiderable. The wound was filled with pledgets of very soft lint and a compress, and a few turns of a roller applied. A well padded splint was applied on the inside of the leg and foot, in order to prevent the strong tendency of the foot to turn inwards.

No unpleasant symptoms occurred after the operation. It is

now more than five months since it was performed. The pain has entirely disappeared, and the patient can now walk almost as well as ever, and the motions of the ankle joint, both forward, backward, and laterally, are nearly perfect.

From the large opening necessarily made into the ankle joint, by the removal of the external malleolus, I expected that at least some degree of anchylosis would certainly follow this operation. I was therefore much surprised and gratified that this result did not take place.

Case 2.—*Case of caries and exsection of the three first metatarsal bones—Recovery.*—J. C., æt. nineteen years, of good constitution, a resident of Shark River, New Jersey, was brought to my office on the 28th of September, 1857, on account of an injury of his foot, which he had received one year previously. He informed me that at that time a horse had stepped upon his foot, in consequence of which it became severely inflamed, and that since that time he had had more or less pain in it almost constantly, and had been unable to walk, or indeed even to put his foot upon the ground.

He had kept the leg constantly flexed upon the thigh, and almost always nearly at an acute angle. As a consequence, the tendons had become contracted, and I could not succeed in straightening the limb by any reasonable amount of force. The anterior half of the foot was of a dark red color, much enlarged, with numerous fistulous openings over the metatarsal bones, and which, when examined with the probe, were all found to lead to carious bone.

The amount of disease in these parts seemed to be so considerable, that my first impression was in favor of amputation, by Lisfranc's operation, but after more minute examination, I concluded that it would be more judicious to endeavor to save the foot, by exsecting only the bones which were actually diseased. Accordingly, the next day (29th), assisted by Drs. Cullen, Enos, and Drake, the patient having been placed under the influence of chloroform, I made an incision on the inner side of the foot, over and along nearly the whole length of the first metatarsal bone, completely down to its surface; another transverse incision was then made, commencing from the centre of the first, and extending about an inch through the integuments towards the outer side of the foot. The knife was now kept close to the first metatarsal bone, so as to dissect the soft parts completely from around the greater portion of it.

This bone, which was found to be carious, was divided by Liston's forceps, and the posterior part separated by the scalpel from the first cuneiform bone, and removed. The remainder

was then taken away, with the exception of about one inch of the anterior extremity, upon which the first phalanx of the great toe is articulated. This portion, being apparently healthy, was preserved. The second and third metatarsal bones, being also much diseased, were entirely removed by cutting through them with Liston's forceps, and then disarticulating their extremities from the second and third cuneiform bones, and from the first phalanges of the second and third toes. A number of irregularly formed masses of ossific matter, which had been thrown out in the vicinity of the diseased bones, was also taken away.

The hemorrhage, which was principally from the minuter vessels, amounted, perhaps, to ten or twelve ounces. Only the external plantar, and one or two small arteries, required the ligature. The wound, which was very deep, was filled with soft pledgets of lint, covered by a compress and a few turns of a roller.

Not the slightest unfavorable symptom occurred during the whole course of treatment. After the wound had commenced to suppurate, I enjoined upon the patient the necessity of making frequent extension of the leg upon the thigh, and of keeping the limb, for a considerable time every day, as nearly as possible approaching the extended position, with the view of overcoming the contraction of the parts about the knee joint. The patient came to see me on this day (December 12th), about two and a half months from the time of operation, having walked nearly half a mile. I found the wound perfectly healed. A cicatrix, about an inch and a quarter in depth, occupies the former situation of the bones which have been removed. The patient states that he is free from pain, but that there is some swelling about the foot and ankle joint whenever he walks much, but that this is daily diminishing, and the power and motions of the limb are constantly improving. He can now extend the leg upon the thigh nearly to a straight position without any difficulty, the contracted state of the parts, about the knee-joint, having almost entirely disappeared.

P. S.—This day (January 27th, 1858) I received a letter from the patient, in which he says: "I am happy to inform you that my foot is getting along very well. The swelling has gone out of my leg, and I now walk around with a cane, and hope I will soon walk without any." He otherwise expresses himself as exceedingly well satisfied with the result of the operation.

ART. IV.—*Fractures of the Clavicle.* By FRANK HASTINGS HAMILTON, M.D., Professor of Surgery in the Medical Department of the University of Buffalo, New York.

FOR the sake of convenience, I shall divide fractures of the clavicle into those occurring through the inner, middle, and outer thirds. By the "outer third" is meant all that portion of the clavicle included between its scapular extremity and the internal margin of the conoid ligament. The remaining portion is intended to be divided equally into two separate thirds. The peculiarities of these several portions, in respect to anatomical relations, liability to fracture, results, etc., will explain the propriety of the divisions.

Causes.—The clavicle is broken, in a large majority of cases, by a counter stroke, such as a fall, or a blow upon the extremity of the shoulder.

Occasionally it is broken by a direct stroke, as when a blow aimed at the head is received upon the shoulder; it is broken sometimes by the recoil of an overloaded gun, especially when the person lies upon the ground with the butt of the gun resting against the clavicle.

Gibson has seen a case in which it was broken in a child at birth, by an ignorant midwife pulling at the arm.*

I have once seen the clavicle broken by muscular action alone. A large, well-built and healthy man, aged thirty-seven, standing upon the ground, attempted to secure the braces of his carriage top with his right arm, when he felt a sudden snap, as if something about his shoulder had given way. He did not, however, suspect the nature of the injury, and did not consult any surgeon until eight days after, at which time I found the right clavicle broken near its centre, but rather nearer the sternal than scapular extremity. The fragments were but slightly, if at all displaced, but motion and crepitus at the point of fracture were distinct. The usual node-like swelling was also present, indicating the existence of a considerable amount of ensheathing callus. He had been unable to raise the arm to a right-angle with the body since it was broken, but he had suffered no other inconvenience from it.

A similar case is reported in the number for January, 1843, (vol. xxxi. p. 212), of the *American Journal of Medical Sciences*, copied from the *Revista Medica*, No. 1841. The subject of this case was a colonel of cavalry, about sixty years of age. In mounting his horse, he experienced a sensation as if something had broken, followed by acute pain in his left shoulder, and on

* GIBSON: *Principles of Surg. Sixth ed.* vol. i. p. 272.

examination, it was found that the clavicle was fractured in the middle. The health of this gentleman had been impaired, it is further stated, by repeated attacks of syphilis.

Malgaigne (p. 464), has recorded three other examples of fracture of this bone from muscular action; and Parker saw a case which was produced by striking at a dog with a whip; the bone had been previously somewhat diseased, yet it united favorably.*

Of these six cases, five occurred on the right side, and always near the middle of the bone, if we except one case reported by Malgaigne, in which the point of fracture is not mentioned. In neither case did the fragments become displaced, only as they were found, in some of the examples, inclined slightly forward.

Pathology.—It has already been observed, in speaking of partial fractures, that this bone suffers an incomplete fracture more often than any other, and that in such cases, the lesion occurs generally in the middle third, or rather to the sternal side of the centre, and in a direction nearly or quite transverse. They are not usually accompanied with much displacement, but if a displacement exists, it is as a slight forward inclination of the fragments.

Fractures which are complete occur mostly after the bones have become firm and unyielding. They are also generally oblique, seldom comminuted, still more rarely compound. The point of the clavicle at which a complete fracture usually occurs, is at or near the outer end of the middle third, and a little to the sternal side of the coraco-clavicular ligaments, near where the trapezius and deltoid cease their attachments. It might be more exact to say, that the fracture extends from this point downwards and inwards, towards the sternum, embracing one inch or less of its entire length. In some cases the obliquity is greater, and the amount of bone involved is much more considerable.

Why the bone should break more frequently at this point, especially in the adult and in the male, it is not difficult to understand. It is smaller here than elsewhere, and less supported by muscular and ligamentous attachments. At this point, also, the axis of the bone begins pretty abruptly to curve forward, and more abruptly in the adult and male, than in the child and female. When, therefore, the clavicle is broken, as it usually is, by a counter-stroke, the force of the blow, conveyed from the shoulder through the outer portion of the bone, is suddenly arrested, and expends itself upon the point where the direction of the axis is changed.

In a record of seventy-nine fractures, including partial frac-

* PARKER: *N. Y. Jour. Med.* July, 1852.

tures and comminuted, the latter of which have always been broken twice, fifty-six have occurred through the middle third, and thirty-six near the outer end of this third. But if we exclude from this analysis all of the partial fractures which occur generally not far from the centre of the bone, the fracture is found to have taken place at the outer end of the middle third, thirty-six times in sixty-two cases. Three have occurred through the inner third, two of which were within one inch of the sternum; and twelve through the outer third.

A more practical analysis can be based, however, upon the point of fracture with reference to its cause; and I have never seen a complete fracture of this bone produced clearly by a counter-stroke, which was not near the outer end of the middle third.

When the fracture is at this point, or in any portion of the middle third, the direction of the displacement is almost uniformly the same. The sternal fragment is slightly lifted by the action of the clavicular portion of the sterno-cleido mastoid muscle, notwithstanding the resistance of the rhomboid ligament, and the subclavian muscle. On the other hand, the acromial fragment is dragged downwards by the weight of the arm, aided by the conjoined action of a portion of the pectoralis major and the latissimus dorsi, feebly resisted by the trapezius and other muscles from above; by the action of the same muscles, aided by the pectoralis minor, and perhaps by some portion of the subclavius, it is drawn towards the body, diminishing thereby the axillary space, while by the preponderating strength of the pectoralis major and minor, the acromial end of the fragment, with the shoulder, is drawn forwards; the sternal end of the same fragment being rather displaced backwards, and at the same time resting at a point somewhat elevated above its acromial end.

Desault has recorded one example of an overlapping by the elevation of the acromial fragment over the sternal;* and Bichat remarks, that Hippocrates speaks of the phenomenon as a thing which was familiar to him. Syme has mentioned a case of this kind which he had seen.† Gueretin, Malgaigne,‡ and Stephen Smith, have each reported an example.§ In Stephen Smith's case, the fracture occurred in a man thirty-eight years old. The bone was broken through the outer third, and transversely. He was treated at the Bellevue Hospital, but the overlapping, to the extent of one inch, remained after the cure was completed.

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* *Desault on Frac., op. cit.* p. 16.
† *Amer. Jour. Me'. Sci.*, vol. xvii. p. 251.
‡ *Malgaigne*, p. 461.
§ *N. Y. Jour. of Med.*, May, 1857.

In nearly all the cases of oblique fractures occurring through the middle third, there follows immediately an overlapping, varying from one quarter of an inch to an inch, and sometimes, though very rarely, exceeding this. There is a specimen in the Dupuytren Museum, in which the shortening equals one-third of its entire length.

Transverse fractures, wherever they may occur, are not so constantly found displaced, at least in the direction of the axis of the bone, as the following examples will illustrate:

An old lady, aged eighty years, fell down a flight of stairs, breaking the right clavicle transversely, about one inch from the sternum. I saw her, with Dr. Trowbridge, on the day following the accident. Motion and crepitus were distinct, but there was scarcely any displacement. No dressings were applied, but she was directed to keep quiet in bed, and upon her back. In the usual time the fragments had united, without deformity.

A man about forty years old, fell backwards from a wagon, breaking the collar bone near the middle. The fragments were movable, but not displaced. He was treated successfully, and without any resulting deformity, by simple confinement in the recumbent posture during a few days, and after this by suspending the arm in a sling, while he was permitted to walk about.

A young man, aged twenty-six, fell while wrestling, and broke the clavicle at the outer end of the middle third. There was some displacement at first, but the fragments being reduced, were found to support themselves. A cross, secured with straps, was applied to the back, and on the twenty-eighth day the union was complete, and without deformity.

A child, aged three years, fell about six feet, striking upon his shoulder. He was sent to me on the same day, by Dr. G. Burwell. I found the left clavicle broken off completely, about one inch from its scapular end. Crepitus and motion were distinct, but the fragments were not displaced. The arm was placed in a sling, and on the seventh day both motion and crepitus had ceased. The cure was accomplished without any degree of displacement.

The example of a fracture from muscular action, already mentioned as having been seen by me, was also probably transverse, and union has occurred without treatment and without displacement.

Stephen Smith, of New York, has met with two examples of transverse fractures without displacement, in a hospital record of eleven cases. Bichat says Desault has frequently observed the same, it having been seen three times at Hôtel

Dieu, in the course of the year 1787.* Desault thinks, also, that sometimes the fracture, taking place obliquely upwards and inwards, the usual form of displacement is prevented, and apposition is preserved.

If the fracture is near the sternum, and within the fibres of the costo-clavicular ligaments, as in the case of the old lady just cited, the displacement is inconsiderable. I have seen one other similar case in an adult also. Lonsdale mentions a case in a child, three years old, which came under his observation in Middlesex hospital,† which he regarded as a separation of the epiphysis; this bone, however, has no epiphysis, properly speaking, being formed entire from a single point of ossification. Malgaigne mentions two other examples, in one of which the fracture was so near the sternum that it was difficult to say whether it was not a partial dislocation. The displacement was only trivial.‡ But the only two specimens contained in the Dupuytren Museum offer a considerable displacement, and in both the external fragment is thrown downwards and forwards.

With regard to the amount of displacement usually attendant upon fractures near the outer end of the bone, surgical writers have generally united in declaring that it was in a majority of cases very inconsiderable, while some have even affirmed that there would be found no displacement whatever; neither of which opinions, according to the recent observations of Robert Smith, of Dublin, are strictly correct. He has examined eight specimens of fracture of the outer extremity of the clavicle, contained in the museum of the Richmond Hospital School of Medicine; three of which were broken between the conoid and trapezoid ligaments, and are united with very little displacement, while the remaining five, broken beyond the trapezoid ligament, present a very marked deformity.

The following is a summary of the conclusions to which he has arrived:

"When the clavicle is broken between the two fasciculi of the coraco-clavicular ligament, there is seldom any displacement of either fragment, and always much less than in fracture of any other portion of the bone. When displacement does occur, it is usually limited to a slight alteration in the direction of the bone, by which the natural convexity of this portion of the clavicle is increased.

"The explanation of which facts are found in the attachments of the ligaments from below to the two fragments; and, in the

* DESAULT, *on Fractures, op. cit.*, p. 15. † LONSDALE, *on Fractures*, p. 206.

‡ MALGAIGNE, *op. cit.*, p. 491.

action of the trapezius from above, by which they are antagonized.

"But the case is very different when the bone is broken external to the trapezoid ligament. Here the coraco-clavicular ligaments can have no direct influence upon the outer fragment, which is displaced now partly by muscular action, and partly by the weight of the arm, the sternal end of the outer fragment being drawn upwards by the clavicular portion of the trapezius, while, by the action of the muscles passing from the chest, the entire outer fragment is drawn forwards and inwards, so as to bring sometimes its broken surface into contact with the anterior surface of the inner fragment, and placing it nearly at right angles with this fragment, in which position it is generally united. The displacement in this direction, rather than any degree of overlapping, explains also the shortening which existed in all of these cases, varying in the different specimens from half an inch to one inch, and averaging about three quarters of an inch."

Such are the views of Mr. Smith; and I see no reason to call in question their correctness. In my own experience, a fracture occurring in a child three years old, within one inch of the acromial end, probably between the ligaments, was never displaced at all; a second, broken somewhere in the outer third, presented, after many years, no displacement. Two recent cases were displaced each one quarter of an inch, and one old case, half an inch; these three latter cases occurred in adults, and always within an inch of the acromial end of the bone. In one of these last examples, the inner fragment was rather behind than above the outer fragment.

But it would be unsafe to draw conclusions from an experience which is confined entirely to living examples, and in which no dissections have been made, to verify the exact point of fracture, or the precise amount and character of the displacement. So far as they go, however, they seem to me to confirm the general correctness of the observations made by Robert Smith.

It has happened to me only five times to meet with a comminuted fracture of the clavicle, all of which fractures occurred through some portion of the middle third of the bone; the intercepted fragments being from one inch to one inch and a half in length, and lying obliquely, or, as in one case observed by me, at nearly a right angle with the main fragments.

I have never seen a compound fracture of this bone, although, in many cases, the sharp point of an oblique fracture has seemed just ready to penetrate the skin. One case

is reported as having been presented at St. Bartholomew's Hospital. It occurred in a boy, fourteen years old, and was produced by his having been drawn into some machinery while it was in motion.*

Lente also mentions a case, seen by himself, occasioned by the fall of a derrick upon the shoulder. The patient, twenty-four years old, was admitted into the New York Hospital in August, 1848. The left clavicle was broken at about its middle, and a large wound in the integuments communicated with the fracture. The fragments united firmly in about six weeks, after several pieces of bone had been discharged from the wound.†

Ayers mentions another case, the result of a severe gunshot accident, in which the bone was also very much comminuted.‡

A double fracture, or a simultaneous fracture, occurring in both clavicles, seldom occurs. I have recorded two cases (*four fractures*, three of which are incomplete), both occurring in young boys.§

Malgaigne says it has only happened to him to see it once in 2,358 cases, at the Hôtel Dieu, and he can recollect only five other examples. And of 158 cases of broken clavicles reported from the New York Hospital, it is stated to have occurred in only four. These gentlemen, however, only report hospital cases, and they have reference, doubtless, to complete fractures; while double fractures, according to my experience, occur more often in children than in adults, and are of the character of partial fractures, without usually much displacement; which facts, if sustained by subsequent observations, would sufficiently explain their infrequency in hospital, and their relative frequency in private experience.

Symptoms.—In all cases of complete fracture with displacement, no difficulty will be experienced in deciding upon the nature of the injury.

The patient is found generally leaning towards the injured side, while the opposite hand sustains the elbow of the same side, to prevent its dragging downwards.

The shoulder falls downwards, forwards, and inwards; while, at the same time, the line of the bone is interrupted by the sharp and projecting point of the sternal fragment.

If the fracture is the result of a direct blow, a swelling and discoloration may be seen at the seat of fracture, but if it is the result of a counter-stroke, we must look to the top or point of the shoulder for the signs of a contusion.

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* *London Med. Gaz.*, vol. ii. p. 382. † LENTE: *N. Y. Jour. of Med.*, July, 1850.

‡ AYRES: *Ibid.*, Jan., 1857.

§ *Rep. on Def. after Frac. cases* 5, 6, 10.

The patient also experiences pain when an attempt is made to raise the arm at a right angle with the body, and especially in attempting to carry the arm across the body, by which the ends of the broken clavicle are driven into the flesh. In two cases (cases 19 and 50 of my Report on Deformities), of oblique fracture, accompanied with displacement, occurring in the middle third of the bone, I have particularly noticed that the patients could easily lift the hands to the head, and in one of these cases the patient, a boy, fourteen years old, raised his arm perpendicularly over his head. Such exceptions are not very uncommon.

Crepitus can be detected sometimes by simply pressing down the sternal fragment, but it is almost always present when we draw the shoulders forcibly back, so as to bring the broken fragments into more perfect contact.

If there is no displacement, still crepitus may generally be discovered by grasping the bone between the thumb and fingers, and moving it gently up and down, or by slight pressure upon the point of fracture.

When the fracture occurs close to the acromial extremity, external to the coraco-clavicular ligaments, although, according to Robert Smith, there is usually considerable derangement, yet it is not accompanied with a corresponding amount of external deformity, and its diagnosis will require, therefore, more care and attention on the part of the surgeon.

Prognosis in this fracture deserves especial attention. In no other bone, except the femur, does a shortening so uniformly result. Of fifty-six complete fractures only fifteen have united without shortening; and of fifteen simple, oblique, complete fractures, which have occurred at or near the outer end of the middle third, only one has united without shortening (case forty-six of my Report), and in this case the patient was but fifteen years old, and the fragments were never much displaced, nor can I say that the treatment, a board across the back after the manner of Keckerly, had anything to do with the result. Five cases of complete transverse fracture, occurring at the same point, have united without shortening.

The shortening varies from one-quarter of an inch to one inch, or more, and the fragments are almost always, especially when the fracture is through the middle third, found lying in the position in which we have described them to be at the first —the outer end of the inner fragment being above, and often a little in front of the outer: sometimes, especially in lean persons, and when the fracture is very oblique, presenting a sharp and unseemly projection.

The greatest amount of shortening is generally found in

those fractures which occur through the middle third; in fractures near the sternal end there is usually very little permanent displacement; the same is true when the fracture is at the acromial end, and between the coraco-clavicular ligaments, as the observations of Robert Smith, already quoted, have sufficiently established, but if the fracture is beyond these ligaments, the final displacement and deformity may be very great.

The presence of a small amount of ensheathing callus soon after the cure is completed, sometimes increases the deformity. It is rarely seen to encircle the bone completely, but, if present, it appears to be most abundant in the direction of the salient points of the fracture, that is, above and below; so that, unless the examination is made with care, the projecting points of callus which remain, sometimes after many years, may be easily mistaken for an intercepted fragment turned at right angles to the axis of the bone. In the case of partial fracture, reported by Dr. Green, a similar circumstance was observed, but which his natural shrewdness soon enabled him to explain.*

Robert Smith has observed also, that in cases of fracture external to the conoid ligament, osseous matter is freely formed upon the under surface of each fragment, but there is seldom any deposited upon the upper surface of either. These osseous growths, occupying the situation of the coraco-clavicular ligaments, frequently prolong themselves as far as the coracoid process, and in some cases to the notch of the scapula. Still less frequently these osteophytes become fused with the coracoid process, and a true anchylosis exists.

In comminuted fractures the intercepted fragments generally fall off from the line of the other fragments, and cannot easily be restored.

The clavicle being a spongy and vascular bone, usually unites with great rapidity, generally within twenty days. In the fourth example of transverse fracture already mentioned as having been seen by me, the union seemed to be tolerably firm in seven days. Wallace reports one case from the Pennsylvania Hospital, which was cured in eight days, and another in nine days.† Velpeau says the clavicle will unite in from fifteen to twenty-five days; Benjamin Bell, in fourteen; Stephen Smith has seen it firm in fifteen days.

Whatever may be the degree of displacement, or the condition of the system, it is very seldom that it refuses to unite

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* *Transac. of Amer, Med. Assoc. for* 1855, *case* 13 *of Frac. of Clavicle.*

† *Am. Jour. Med. Sci.* vol. xvi. p. 115.

altogether or that the union is ligamentous: and in the few cases found upon record of a ligamentous union, the functions of the arm do not seem to have suffered any serious ultimate injury, as the following example, and the only one which has come under my observation, will illustrate.

Edmund Nugent, a stout Irish laborer, now twenty-five years old, was received into the Buffalo Hospital of the Sisters of Charity, in March, 1854. He states that several years before he fell from a horse and broke his left clavicle, at the outer end of the middle third. This was near Cork, in Ireland, and without consulting any surgeon or "handy man," he continued at work, holding the tail of the plough, nor from that day forward did he employ a surgeon, or dress his arm, or cease from his work.

The clavicle presents now the same deformity which nearly all other similar fractures present after what is usually termed successful treatment, except that it is not united by bone. The outer end of the inner fragment rides upon the inner end of the outer fragment half an inch. The ligament uniting the two extremities is so long and firm that it can be distinctly felt, and the fragments may be moved upon each other with great freedom.

In order that we might determine the amount of injury which he had suffered from the ligamentous union, we directed him to lift weights placed on a table before him, while he was seated upon a chair. We ascertained from this experiment that with his left arm he could lift as much, within three ounces, as he could with his right, and he was not himself conscious of any difference. The muscles of the left arm seemed as well developed as those of the right.

Chelius also refers to two cases mentioned by Gerdy and Velpeau, in which, although an artificial joint remained, the use of the limb was but little impaired.*

Ferguson "once had occasion to remove various portions of this bone, which had become necrosed in consequence of neglected treatment. The patient, about twenty years of age, had the right collar bone broken by the fall of a tree; not knowing the nature of the injury, he worked as a reaper for several hours after, violent inflammation, suppuration and necrosis followed; but after the dead pieces were removed he made a rapid and excellent recovery." †

In the case of compound and comminuted gunshot fracture reported by Ayres, of New York, and already referred to, the

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* CHELIUS, *Amer. Ed.* vol. i. p. 603.

† FERGUSON: *System of Practical Surgery.* Amer. ed. p. 215.

recovery was remarkable. The man was sixty-two years old, and in excellent health when the injury was received. The clavicle was so extensively comminuted that before the wound closed over one third of the bone had escaped, and yet at the end of one year from the time of the accident the shoulder was perfectly symmetrical with its fellow, without drooping or falling forwards. Dr. Ayres thinks that all of the clavicle which was lost has been reproduced.

A partial paralysis, with atrophy of the muscles of the arm, accompanied also with more or less rigidity and contraction of the muscles, both of the arm and forearm, is, according to my observation, a more frequent result of these fractures.

Mr. Earle has recorded a case of comminuted fracture of the clavicle, in which the nerves converging to form the axillary plexus were so much injured that paralysis of the arm ensued; and it was noticed as an interesting fact, that the patient could not afterwards put her hand into even moderately warm water without the effects of a scald being produced, characterized by vesications, redness, etc.*

Desault saw a case at Hôtel Dieu, in which, although the clavicle was not broken, the force of the blow upon the clavicle was sufficient to produce a severe concussion of the brachial plexus, and paralysis of the arm. A timber had fallen from a building striking upon the external part of the left clavicle. A considerable wound, followed by swelling, pointed out the place on which the blow had been received. No apparatus was applied, and on the third day a numbness and partial loss of the power of motion occurred in the arm of the affected side. Soon afterwards an insensibility came on, and by the seventh day, the paralysis of the arm was complete. It was not until after a tedious treatment that the limb recovered in part its original strength.†

In case 23, of my report to the American Medical Association, which was followed by paralysis of the opposite arm, and spinal curvature, these results were probably due to some injury of the back received at the time of the accident; but one cannot avoid a suspicion that the apparatus, Brasdors' jacket, contributed somewhat to the unfortunate result. No axillary pad was employed, but the straps over each shoulder were buckled so tight that he was compelled to incline his head constantly to the right side. He was unable to lie down, and could only recline in a half sitting posture. This treatment was continued four weeks; and two months after its removal the paralysis and spinal distortion commenced.

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* S. COOPER'S *First Lines.* Fourth Amer. ed. vol. ii. *p.* 323.

† DESAULT *on Trac. and Disloc.* Amer. ed. 14, 1805.

In case 38 also, of the same report, a comminuted fracture, paralysis with contraction of the muscles extending to the wrist and fingers, existed, but whether it was due to the severity of the original injury or to the treatment, could not be satisfactorily ascertained.

Gibson relates a remarkable instance of this kind. A young man was struck on the clavicle by the falling limb of a tree, breaking it into numerous pieces, and bruising the parts so severely as to give rise to violent inflammation. "The fragments had been driven behind and beneath the level of the first rib, and so compressed the plexus of nerves as to wedge them into each other, and by the subsequent inflammation to blend them inseparably together. Complete paralysis and atrophy of the whole arm ensued, and the patient's object in visiting Philadelphia was to submit to an operation, in hopes of elevating the clavicle to its natural height, and taking off pressure from the nerves." Dr. Gibson, however, did not believe that the prospect of success was sufficient to warrant the operation, and the young man was sent home.*

Lizars says the callus is sometimes secreted so profusely, as by pressing upon the brachial plexus, to render the arm paralytic for a time; and he affirms that as a consequence of this pressure he has seen it remain in this condition three months. The statement, however is made in a manner too vague, and needs confirmation.

It will not do to deny, therefore, the possibility of a paralysis as resulting from a concussion of the axillary nerves, produced by a blow upon the clavicle, nor of a paralysis resulting from a direct injury inflicted by the points of the fragments upon this plexus in certain very badly comminuted fractures; but it is certain that these conditions will not satisfactorily explain all of the other examples in which paralysis has followed simple fractures. In some cases it is no doubt due rather to the injudicious mode of using an axillary pad, by means of which the arm is converted into a powerful lever, and thus the brachial nerves are made to suffer from compression along the inner side of the arm itself. In short it must be confessed that it is sometimes due to the treatment alone, and not to the original injury.

Parker, of New York, in a note to the edition of S. Cooper's Surgery, just quoted, declares that he has seen one patient who had lost the use of his arm from the pressure upon the nerves by the wedge-shaped pad, over which the limb was con-

* GIBSON, *Op. cit.* vi. p. 271.

fined, in order to pry the shoulder outwards. Stephen Smith mentions a case of partial paralysis from the same cause. *

A similar case has come under my own observation. A lady, aged fifty-one years, was thrown from her carriage, breaking the right clavicle obliquely at the outer end of the middle third. During the first three weeks the arm was dressed with Fox's apparatus, which was at no time particularly painful. She was then placed under the care of another surgeon, who, finding the fragments overlapped, applied very firmly a figure of 8 bandage, with an axillary pad, securing the arm snugly to the side of the body: hoping by these means to restore the fragments to their place. The pain which followed was excessive, and notwithstanding the free use of anodynes, it became so insupportable that at the end of fourteen hours the dressings were removed by another surgeon, and Fox's apparatus again substituted. These were also applied much more snugly than at first, and during the four weeks longer that they remained on, repeated attempts were made to reduce the fragments.

Forty-eight days after the accident, she consulted me. The clavicle was then united, and overlapped half an inch. The whole arm was swollen, painful, and very tender, with total inability to move it.

I removed all the dressings, and, during the time she remained under my care, in a private room at the hospital, there was a gradual improvement in the condition of her arm, in respect to swelling and tenderness, but the paralysis did not much abate.

Erichsen thinks he has seen one case of comminuted fracture, produced by a direct blow, in which the subclavian artery was ruptured; great extravasation of blood resulted and the arm was threatened with gangrene. The patient having recovered, however, the diagnosis could not be determined by actual dissection of the vein.†

Since among surgeons some difference of opinion seems to exist as to the practicability of overcoming the displacement in certain fractures of the clavicle, it is proper that I should defend the accuracy of my own observations by a reference to the observations of others.

In nine of eleven cases reported by Stephen Smith, one of the surgeons at Bellevue Hospital, New York, more or less deformity remained after the cure was completed. In the two remaining cases the actual results are unknown.‡

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* *N. Y. Jour Med. May*, 1857.

† ERICHSEN: *Surgery.* Amer. ed. p. 205.

‡ *N. Y. Jour. Med., May*, 1857, *p.* 382.

"Great difficulty has been experienced in treating this fracture."—*Syme's Principles of Surgery*, p. 266, *Philadelphia Ed.* 1832.

"The indications of treatment are plain, but, unfortunately, not very easily fulfilled."—*Miller's Practice of Surgery, 3d Amer. Ed. from 2d Edinburgh*, p. 309.

"Fractures of the clavicle will often cause greater trouble than those which are considered of a more serious character, and the utmost pains will not, on all occasions, suffice to prevent a slight prominence of the inner fragment."—*Practical Surgery. By Wm. Ferguson. 4th Amer. Ed. from 3d London*, p. 215.

"Setting of this fracture is easy, yet only in very rare cases is the cure possible without any deformity."—*System of Surgery. By J. M. Chelius, of Heidelberg, with notes by South. First Amer. Ed.* vol. i. p. 603.

"It is considered, also, that the close union of the fracture of the collar-bone depends less on the apparatus than on the position and direction of the fracture; (therefore, in spite of the most careful application of this apparatus, some deformity often remains.")—*Ibid.* p. 605.

The following statements of M. Velpeau are found in a letter addressed to the editor of the *Boston Medical and Surgical Journal*, by J. Willis Fisher, dated Paris, Sept. 16th, 1846.

Mr. Fisher remarks that the report is drawn in part from his own notes, and partly from "the report published in the *Gazette des Hôpitaux.*" It is the annual summary of M. Velpeau's practice at La Charité, for the year ending Sept. 1846.

"The fractures of the clavicle, less numerous than ordinarily, have been only four. They have proved these three often repeated propositions: First, that contrary to to the general opinion, the patients can carry the hand to the head when they have a fractured clavicle. Secondly, that the consolidation of the bones demands only from fifteen to twenty-five days, and not six weeks or two months. Thirdly, that with all the bandage imaginable, we cannot prevent fracture of the two internal and oblique thirds from leaving a deformity."—*Bost. Med. and Surg. Jour.* vol. xxxv. p. 212.*

"Fracture of the clavicle is almost always followed by deformity, whatever may be the perfection of the apparatus and the care of the surgeon."—*Vidal* (*de Cassis.*) *Paris Ed.* vol. ii. p. 105.

"Hippocrates has observed that some degree of deformity

* This is evidently a misprint. Instead of "fracture of the two internal and oblique thirds," the writer means to say, *an oblique fracture at the junction of the two internal with the outer thirds.*

almost always accompanies the reunion of a fractured clavicle; all writers since his time have made the same remark; experience has confirmed the truth of it."—*Treatise on Fractures and Luxations. By J. P. Desault. Edited by Xav. Bichat, and translated by Charles Caldwell, M. D. Philadelphia*, 1805, p. 9.

"As to the reduction of this fracture, it must be owned the same is often easier replaced than retained in its place after it is reduced; for its office being principally to keep the head of the scapula, or shoulder, to which, at one end, it is articulate, from approaching too near, or falling in upon the sternon, or breast-bone, it happens that, on every motion of the arm, unless great care be taken, the clavicle therewith rising and sinking, the fractured parts are apt to be distorted thereby. Besides, even in the common respiration, the costæ and sternon aforesaid, where the other end of this bone is adnected, together with the motion of the diaphragm, rising and falling, especially if the same be extraordinary, as in coughing and sneezing, are able to undo your work, not to mention the situation thereof, less capable of being so well secured by bandage as many others. All which, duly considered, it is no wonder that upon many of these accidents, although great care has been taken, these bones are sometimes found to ride, and a protuberance is left behind, to the great regret particularly of the female sex, whose necks lie more exposed, and where no small grace or comeliness is usually placed." * * * * * —*The Art of Surgery, by Daniel Turner.* Vol. ii. p. 256. *London Ed.* 1742.

"Restituitur facile tractis humeris a ministro posterius, dum simul suo genu locato ad spinam dorsi, dorsum sustentet minister, nam tunc chirurgus folis digitis claviculam fractam reponere potest. *Difficilius autem in reposita sede retinetur*, sed loca cava supra et infra claviculam spleniis implenda."—*Johannis de Gorter: Chirurgia Repurgata*, p. 79. *Lugduni Batavorum.* 1742.

"The reduction of a broken clavicle is not very hard to be effected, especially when the fracture is transverse; nor is it usual for the humerus, with the fragment of the clavicle, to be so far distorted as not to be easily replaced with the fingers; *but the difficulty is much greater to keep the bone in its place when the fracture is once reduced, especially if the bone was broken obliquely.*"—*Heister's Surgery*, vol. i. p. 134. *London Ed.* 1768.

Amesbury, after having exposed the inefficacy of all previous modes of dressing, and especially of the figure of 8 bandage, Desault's, Boyer's, and an apparatus recommended by

Sir Astley Cooper, proceeds to describe his own apparatus and to affirm its excellence. It is, however, not much unlike a multitude of others, and is liable, I have no doubt, to the same objections. But the author thus writes:

"The clavicle bandage, once properly applied, enables the surgeon to resist the action of all those powers which tend to produce displacement, and puts the fractured bone entirely under his control, without being productive of any of those evils which, I have endeavored to show, arise from the usual modes of treatment. I am not prepared to say that every fracture of the clavicle, treated in the manner which I have thought it expedient to advise, admits of being united without deformity; but, I am fully convinced that, if such cases should occur, they will be found very rare. I have had this bandage in use now about eight years, and, in the course of this time, I have used it in a large number of cases, many of which have occurred in the St. Thomas Hospital. The result of these cases has been very satisfactory to myself, and to those surgeons by whom the treatment was witnessed."—*Treatment of Fractures, by Joseph Amesbury*, vol. ii. p. 527. *London Ed.* 1831.

"The direction the fracture takes is generally oblique, and in one place only, more particularly when it is caused by the indirect force; and this obliquity is one great reason why it is so difficult to treat this kind of injury without some slight deformity (*and often a very great one*) existing afterwards." * * * "One satisfactory result in the treatment of fracture of the clavicle is that, although it is very difficult to prevent deformity afterwards, the motion and free use of the limb do not become much impaired; *for the bone is often shortened an inch or more*, and still the limb possesses free motion and strength. This shortening causes the neck of the scapula to fall forwards, and makes the base of it project backwards, giving the person the appearance of having the chest contracted in front, by which the extent of range of action in the upper extremity will be diminished, although sufficient motion remains for the ordinary uses of the upper extremity. Where the fracture occurs in females, in whose dress the clavicle is exposed to view, it becomes an additional object to get the bone to unite as evenly as possible, to guard against the formation of an unsightly lump that will remain forever afterwards. The more the deformity is prevented in these cases, the more credit the surgeon will get for the cure."—*Practical Treatise on Fractures, by Edward F. Lonsdale*, p, 207 *and* 209. *London Ed.* 1838.

M. Mayor, of Lausanne, thinks that up to this day no successful mode of treatment had been devised. "Here every-

thing appears as yet so little determined that each day sees some new propositions and different procedures," etc. He believes, however, that in his simple handkerchief bandage, with straps across *each* shoulder, the indications are most fully accomplished and the most successful results are obtained. If, however, it were to be treated *without* apparatus, the horizontal position, lying upon the back, would, in the end, make the most perfect unions.—*Nouveau Système de Déligation Chirurgicale, par Mathias Mayor, de Lausanne*, p. 384, *etc.*, (*also Atlas, plate* 3, *fig.* 23.) *Paris Ed.* 1838.

Says M. Malgaigne, "The prognosis, considering the trivial character of this fracture, is sufficiently difficult. For, little as may be the displacement, the surgeon ought not to promise a reunion without deformity; and certain successful results, proclaimed from time to time, betray, on the part of those who relate them, the most extravagant exaggerations."—*Traité des Fractures et des Luxations, par J. F. Malgaigne. Tome premier*, p. 473. *Paris Ed.* 1847.

M. Nelaton having spoken of the various plans which have been suggested to retain this bone in place, and of their inefficiency, comes at last to speak of the handkerchief bandage of M. Mayor, and remarks:

"This apparel is very simple; but neither will it remedy the overlapping." * * * * "Of all the apparels which we have passed in review there is, then, not one which fills completely the three indications usually present in the fracture of a clavicle. None of them oppose the displacement; they have no effect, with whatever care they may be applied, but to maintain immobility in the limb. We think, then, that it is useless to fatigue the patient with an apparatus annoying, and, perhaps, even painful; a simple sling, secured upon the sound shoulder, will be sufficiently severe. Nevertheless, as this does not assure so complete immobility as the bandage of M. Mayor, it is to this that we think the preference ought to be given in all cases of fractures of the clavicle, whether accompanied with displacement or not, whether they occupy the middle or the external part of the clavicle. If the fracture presents no displacement, we shall obtain a cure which will leave nothing to be desired. If there is a tendency to displacement, the consolidation will be effected with a deformity more or less marked; *but since this deformity is inevitable, at least with adults, whatever may be the apparel which we employ*, it is evident that the apparatus which causes the least constraint ought to have the preference. We may remark, farther, that this union with deformity in nowise impairs the free exercise of all the movements of the member."—*Elémens*

de Pathologie Chirurgicale, par A. Nelaton, tome premier, p. 720. *Paris Ed.* 1844.

"The venerable gentleman who stands at the head of American surgery, and whose manipulations with the roller approach very nearly to the limits of perfection, informed us, in 1824, that he *had never seen a case of fractured clavicle cured by any apparatus, without obvious deformity.*" (Reynal Coates, *Amer. Med. Jour.*, vol. xviii., p. 62. Old series.)*

I need not say that the "venerable gentleman" to whom Dr. Coates refers in this passage, was the late Dr. Physick, of Philadelphia.

Treatment.—If evidence were needed beyond that which has been furnished, of the difficulty of bringing to a successful issue the treatment of this fracture, it might be supplied, one would think, by a reference merely to the immense number of contrivances which have been at one time and another recommended.

A catalogue of the names only of the men who have, upon this single point, exercised their ingenuity, would be formidable, nor would it present any mean array of talent and of practical skill.

All these surgeons, however, have admitted the same indications of treatment, viz., that in order to a complete restoration of the outer fragment, which alone is supposed to be much displaced, we are to carry the shoulder upwards, outwards, and backwards. But as to the means by which these indications can be most easily, if at all, accomplished, the widest differences of opinion have prevailed; and, in the debate, it may be seen that, while on the one hand, no invention has wanted for both advocates and admirers, on the other hand, no method has escaped its equivalent of censure.

Hippocrates, Celsus, Dupuytren, Flaubert, Lizars, Pelletan, and others, directed the patients to lie upon their backs, with little or no apparatus, but generally with the spinal column so supported and lifted with pillows, as that the shoulders would by their own weight fall backwards. S. Cooper and Dorsey also recommend that the patients should be confined in this position during most of the treatment; and, from the account given by Dr. Lente, it may be inferred that a similar plan is generally adopted in the New York City Hospital. "But this result (deformity) rarely happens when the patient has strictly followed the directions of the surgeon, as to position especially,

* It is probable that Dr. Physick here referred to complete and oblique fractures of the middle third, or that Dr. Coates has forgotten the precise language employed on this occasion.

for it is by position more than by any other remedial means, that a good result is to be effected. * * * * * The persevering continuance of the supine position in bed, with the head low, and, if necessary, a pad between the shoulders. This is the treatment uniformly adopted by Dr. Buck, in the hospital, and the results of his treatment are certainly such as to recommend it highly."

Nearly the same method we find recommended by Alfred Post, in 1840, then one of the surgeons of that hospital; the arm being merely kept in a sling and bound to the side, with the patient lying upon his back; and Dr. Post mentions a case treated in this manner, which terminated with very little deformity.*

Dr. Eve, of Nashville, Tenn., and Dr. Eastman, of Broome County, N. Y., have also employed this method successfully;† while Malgaigne declares it the most reliable means of obtaining an exact union.

Albucasis, Lanfranc, Guy de Chauliac, Petit, Parr, Syme, Skey, Brunninghausen, Parker,‡ and very many others, especially among the English, have preferred, in order to carry the shoulders back, a figure of 8, while Desault, Colles, South, and Samuel Cooper, have represented this bandage as useless, annoying, and mischievous.

Heister, Chelius, Miller, Breifeld, Keckerly,§ Coleman,‖ Welch,¶ Hunton,** prefer for this purpose, some form of back-splint, extending from acromion to acromion, against which the shoulders may be properly secured. Parker says that splints of this kind, with a figure of 8 bandage, are "better than all the apparatus ever invented." While Mr. South gives his testimony in relation to all dressings of this sort, as follows: "I do not like any of the apparatus in which the shoulders are drawn back by bandages, as these invariably annoy the patient, often cause excoriation, and are never kept long in place, the person continually wriggling them off to relieve himself of the pressure."

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* *N. Y. Jour. of Med.*, vol. ii. p. 266.

† *Boston Med. and Surg. Jour.*, vol. lvi. p. 468.

‡ PARKER: *Samuel Cooper's First Lines. Amer. Ed.* Vol. ii. p. 325.

§ KECKERLY: *Amer. Jour. of Med. Sci.*, vol. xv. p. 115; *also, My Report on "Deformities after Fractures," in Trans. of Amer. Med. Assoc.*, vol. viii. p. 440.

‖ COLEMAN: *New York Jour. of Med., 2d series*, vol. iii. p. 274. *From New Jersey Med. Rep.*

¶ WELCH: *Trans. of Amer. Med. Assoc.*, vol. viii.; *My Report on "Deformities after Fractures,"* appendix. p. 441.

** HUNTON: *Ibid.; also, New Jersey Med. Rep.*, vol. v. p. 146.

Fox,* Brown,† Desault, and others bring the elbow a little forwards, and then lift the shoulder upwards and backwards. Wattman and Lonsdale carry the elbow still further forwards, so as to lay the hand across the opposite shoulder, while Guillou carries the hand and forearm *behind* the patient, and then proceeds to lift the shoulder to its place.

Thus Desault, Fox, and Wattman accomplish the indication to carry the shoulder back, by lifting the humerus while the elbow is in *front* of the body, and Guillou accomplishes the same indication by lifting the humerus when the elbow is a little *behind* the body. Chelius also says: "The elbow, as far as possible, is to be laid backwards on the body."

Sargent, who believes that with Fox's apparatus "the occurrence of deformity is the exception," and not the rule, and prefers it to all others, has treated three cases by Guillou's method, and is perfectly satisfied with its operation.

Hollingsworth, of Philadelphia, has also treated one case successfully by Guillou's method, and adds his testimony in its favor. But how shall we explain these equal results from opposite modes of treatment? Is the indication to carry the shoulders back, which Fox sought to accomplish by pressing the elbow upwards and backwards, as easily attained by pressing the elbow upwards and forwards? Or are we not compelled to infer that there has been some mistake as to the precise amount of good accomplished by the apparatus in either case? Moreover, Coates,‡ Keal, and others, instruct us that the only safe and proper position for the humerus is in a line with the side of the body, and that it must neither be carried forwards nor backwards.

Paulus Ægineta, Boyer, Desault, Pecceti, Liston, Ferguson, Samuel Cooper, Erichsen, Miller, Skey, Dorsey,§ Gibson,‖ Fox, H. H. Smith,¶ Norris,** Sargent, Eastman,†† recommend an axillary pad, while Richerand, Velpeau, Dupuytren, Benjamin Bell, Syme, deny its utility, or affirm its danger. Dr. Parker has seen one patient in whom paralysis of the arm resulted from the pressure upon the brachial nerves, in the attempt "to *pry* the shoulder out;" and I have myself recorded another.

* FOX: *Liston's Practical Surgery*, Amer. ed., p. 47.

† BROWN: *Sargent's Minor Surgery*, p. 132.

‡ COATES: *Amer. Jour. Med. Sci.*, vol. xviii., p. 62.

§ DORSEY: *Elements of Surgery*, vol. i., p. 133.

‖ GIBSON: *Institutes and Practice of Surgery*, vol. i., p. 271.

¶ H. H. SMITH: *Practice of Surgery*, p. 354.

** NORRIS: *Liston's Practical Surg.*, Amer. ed., p. 46.

†† EASTMAN: *Apparatus for Fractured Clavicle*, by PAUL EASTMAN, of Aurora, Ill. *Boston Med. and Surg. Jour.*, vol. xxiii., p. 179.

Cabot, of Boston, Massachusetts, has recommended a mould of gutta percha laid over the front and top of the chest.*

Desault's plan, which took its origin, as Velpeau thinks, in the spica of Glaucius, under various modifications, is recommended by Delpech, Cruveilhier, Lasere, Flamant, Samuel Cooper, Ferguson, Liston, Cutler, Physick, Dorsey, Coates, and Gibson; while by Velpeau, Syme, Colles, Chelius, Samuel Cooper, and Parker, it is regarded as inefficient and troublesome. Says Mr. Cooper: "In this country, many surgeons prefer Desault's bandages; but I do not regard them as meeting the indications, and consider them worse than useless."

The dextrine bandages, or *apparatus immobile*, of Blandin, Velpeau, and others, constitute only another form of the bandage dressing of Desault. In this connection it ought to be noticed that Velpeau does not regard the employment of this apparatus, or of any other demanding great restraint, as imperative. In his great work on anatomy, referring to the fact that when the bone is broken and overlapped, the patient is still able, in many cases, to move the arm freely; "Do not these cases," he remarks, "give support to the opinion of those who admit that fractures of the clavicle do not actually require any other apparatus than the simple supporting bandage." "It is necessary to observe," he adds, "that by thus acting we do not prevent an overlapping,"† etc.

The sling, in some of its forms, is employed by Richerand, Huberthal, Colles, Miller, Fox, Stephen Smith,‡ H. H. Smith, Bartlett,§ Levis,‖ Dugas,¶ Benjamin Bell, Bransby Cooper, Earle, Chapman, Keal, and by a large majority of the English surgeons; while Dr. Gibson declares the *sling* bandage employed so much by the English, "the most inefficient, contemptible, and injurious of all contrivances for such purposes."

No apparatus, perhaps, has been so generally employed, among American surgeons, as that form of the sling introduced by Dr. George Fox into the Pennsylvania Hospital in 1828, since which time no other has ever been used in that institution for the treatment of broken clavicles.

Sargent says of it: "Fractures of the clavicles, treated by this apparatus, are daily dismissed from the Pennsylvania Hos-

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* CABOT: *Bost. Med. and Surg. Jour.*, vol. lii., p. 232.

† VELPEAU: *Anatomy*, Amer. ed., vol. i., p. 242.

‡ STEPHEN SMITH: *New York Jour. Med.*, vol. ii., 3d series, p. 384 (May 1857).

§ BARTLETT: *My "Report on Defor."* etc., Appendix; also *Bost. Med. and Surg. Jour.*, vol. li., p. 404.

‖ LEVIS: H. H. SMITH'S *Practice of Surg.*, p. 365.

¶ DUGAS: *Report on Surgery.*

pital, and by surgeons in private practice, cured without perceptible deformity."

Norris, in a note to *Liston's Practical Surgery*, affirms that "the chief indications in the treatment of fracture of the clavicle are *perfectly* fulfilled by the use of this apparatus."

Smith, in his *Minor Surgery*, declares that Fox's apparatus accomplishes "perfect cures" in very many cases, and that it is "a very rare thing for a simple case to go out of the house (Pennsylvania Hospital) with any other deformity save that which time cures, viz. the deposition of the provisional callus." He has also reported substantially the same opinion in his larger work, entitled "*Practice of Surgery.*"

Such testimony in favor of any dressing demands respectful attention; and I shall not be regarded as detracting from the respect due to these authorities, when I express my belief that it is in deference to the distinguished reputation of the surgeons who have during the last thirty years had charge of the services in that hospital, and who have been so loud in its praise, that the use of this apparatus has, with us, become so general. I believe, also, that, in some measure, this general preference is due fairly to the intrinsic excellence of the dressing. But I must be permitted to express a doubt whether it has made deformities of the clavicle "the exception, instead of the rule," with us. I have used this dressing oftener than any other form, and yet my success has by no means been so flattering as has been the success of these gentlemen. I have seen others employ it, also, and with pretty much the same results. Nor ought it to be forgotten that, in Great Britain, by far the greater majority of surgeons employ an apparatus essentially the same. I have seen it in many of the hospitals, and Mr. Bickersteth, one of the surgeons of the Liverpool Infirmary, informed me, in 1844, that it had been in use with them as long as thirty years. All that has justly been said against the English mode of dressing by slings, is equally true of this; and whatever has been affirmed of the danger of using an axillary pad, applies as much to this as to any other mode of using the same.

I believe, however, that, in the Pennsylvania Hospital, the axillary pad employed is not so large, and, especially, not so thick, as that recommended by Desault, and in this respect it is plainly an improvement; but then, in the same proportion that it is made less thick, it is less powerful to accomplish the indication in question; and if it merely fills the axillary space, then it is no longer a fulcrum upon which the arm is to operate as a lever, but it is only, in its effect, "retentive."

Regarding, then, the importance of this question to the

interests of surgery, and observing the wide differences of opinion which are entertained here and elsewhere as to the real value of this dressing, is it asking too much of these gentlemen, that they will present us some more precise statistical testimony? It will be observed that its advocates claim for it what is not to-day, at least, claimed for any other apparatus, viz.: that, under its use in the Pennsylvania Hospital, and in the hands of private practitioners, so far as they have seen, deformities have become the "exception." It is affirmed to answer "perfectly" *all* the indications. By which it must be intended to say, that, in addition to both of the other indications, that also, which has always heretofore been found so difficult, if not impossible, the carrying out of the shoulder, is in a majority of cases perfectly accomplished. The clavicles are not shortened.

If it is intended, however, to say that a shortening is not generally prevented, but only that no unseemly projection or the fractured ends will be found to result, I reply, that then it does not answer *all* the indications, and I beg, further, to suggest that the avoidance of an upward projection seems, to me, to depend much more upon that part of any apparatus which lifts the shoulder, and which belongs to a multitude of other forms of dressing as well as to that in question, than upon that which forces the shoulder out, and it may be accomplished, in a majority of cases, as well without an axillary pad, with a mere sling, as with it. But, in fact, my experience has convinced me that the absence or presence of such a projection, after union, is due more to the circumstances of the fracture, as to whether it is more or less oblique; and still more especially, to the degree of roundness, or emaciation of the patient, than to any form, or part, or condition of the apparatus. It will be found more distinct in oblique fractures than in transverse, and much more marked in thin persons than in plump, or fat persons, and more so in muscular than in non-muscular. In short, I affirm that such a projection has occurred as often under my observation, when this dressing has been used, as it has when other forms have been employed.

Finally, while I deprecate incautious assumptions in regard to the capabilities of any form of dressing for broken collar-bones, a disposition to which is manifested by more than one advocate of special plans, I am ready to bear my humble testimony in favor of that one of whose claims I have taken the liberty to speak so freely, and which is usually known in this country by the name of Fox's apparatus, consisting essentially of a sling, axillary pad, and bandages to secure the arm to the chest, and to which the stuffed collar is a convenient accessory,

but admits of various modifications, answering the same ends. Among the considerable variety of dressings which I have used, this, either with or without such slight modifications as I shall presently suggest, has seemed to be most simple in its construction, the most comfortable to the patient, the least liable to derangement (if I except Velpeau's dextrine bandage), and as capable as any other of answering the several indications proposed.

No apparatus is better able to answer the first indication, namely, "to carry the shoulder up," and thus to bring the fragments into line. If, as not unfrequently happens, the outer end of the inner fragment is also carried a little upwards and forwards, it may be, in some measure, replaced by inclining the head to the injured side, or by a carefully adjusted compress and bandage. But it is not probable that any patient will consent to remain a long time in a position so unnatural and constrained; nor is it very easy, as the experiment will show, to maintain a steady pressure upon this portion of the broken clavicle.

The second indication, "to carry the shoulder back," is certainly much more difficult of accomplishment than the first; and it does not seem to me to be fully met by the sling dressing, but, until some mode is devised less objectionable than any I have yet employed, or than any, the mechanism of which I have seen described, I see no alternative but to trust to that action of the muscles attached to the scapula, by which, as Desault first explained, when the shoulder is lifted perpendicularly, it is also in some degree carried backwards, and that, too, it has occurred to me frequently to observe, just as much as when the upward pressure is made with the elbow placed in front of the body.

It is my belief, however, from the evidences now before us, that the third indication, "to carry the shoulder out," still remains unaccomplished; that it cannot be claimed for this, or for any other apparatus yet invented, that, in a certain class of cases which I have sufficiently indicated, constituting a vast majority of the whole number, it is able to prevent a riding of the fragments. Nor, seeing the difficulties in the way, and the amount of talent which has been already devoted to their removal, have I much confidence that this end, so desirable, and so diligently sought, will ever be attained. Yet it is presumptuous, perhaps, to say what the skill and ingenuity of a profession whose labors never cease, may hereafter accomplish.

Having already expressed my preference for the sling, I have only to add what I consider necessary modifications in the form of this dressing recommended by Dr. Fox.

Dr. Coates, in the excellent paper already referred to, (Am. J. M. S. vol. xviii., p. 62), calls attention to the danger of mak-

ing too much pressure upon the brachial artery and nerves, when the axillary pad is used, and the arm is, at the same time, carried forwards upon the body. In bringing the elbow forwards so as to lay the forearm across the body, the humerus is made to rotate inwards, and the brachial artery and nerves are brought into more direct apposition with the pad. The same objection must hold, only in a greater degree, to M. Guillou's method of carrying the forearm across the back.

The humerus ought then to be permitted to hang perpendicularly beside the body, and thus the nerves and blood-vessels will be removed in a great measure, yet not entirely, from pressure. The pad (to be employed only as a part of the contentive means, and not as a fulcrum) should be firm, but scarcely thicker than is necessary to fill competely the axillary space when the elbow is made to press snugly against the side of the body.

In consequence of having placed the elbow further back than is recommended by Dr. Fox, it will be necessary, also, to vary, in some way, the suspensory tapes; those coming from the humeral portion of the arm-tray must pass in equal numbers, and in opposite directions—before and behind the body—towards the stuffed collar; and each set of front and back tapes, attached to the humeral portion of the tray, must be in pairs, for the convenience of tying. I find it convenient also to secure the arm to the body always by two or three turns of a roller, applied always with great care, so that its pressure shall be in no degree painful or uncomfortable.

An experience, limited to the two following examples, induces me to think, that very many cases would be brought to a conclusion equally satisfactory without any form of apparatus, by retaining the patient a few weeks in the recumbent posture upon the back, as recommended by Hippocrates and others; and to which plan allusion has already been made.

Jan. 2, 1856—Mary Ann S. æt. 24, fell down a flight of stairs, breaking the right collar bone obliquely near its middle. She was unwilling to submit to bandages, and I directed her simply to lie upon her back in bed. On the fourteenth day the fragments had united; and at the end of the third week I dismissed her, with an overlapping of the fragments of less than half an inch, and with scarcely any perceptible deformity.

Alexander Mooney, æt. 33, was admitted to the Buffalo hospital, December 3, 1856, with an oblique fracture of the left clavicle, at the outer end of the middle third. On measurement we found the fragments overlapped nearly half an inch.

In presence of a class of medical students I applied Bartlett's apparatus, a very ingenious and convenient form of the sling

dressing, and the same which is now in use at the Mass. General Hospital, in Boston. On the following day the apparatus was found to be loose, and it was carefully retightened. On the third and fourth day, it was found necessary also to readjust it more or less, and the fragments of the broken clavicle continued to overlap.

On the fifth day Bartlett's apparatus was removed, and the patient laid upon his back in bed, with his arm simply tied to the side of his body by a few turns of a roller.

On the tenth day all motion had ceased between the fragments; but he was kept in bed three weeks.

Jan. 10, 1857, he was discharged from the hospital, with an overlapping of only about one quarter of an inch, and with scarcely any perceptible deformity.

ART. V.—*Practical Suggestions on the Formation of Secondary Abscesses.* By WM. S. BOWEN, M.D., of New York.

PURULENT ABSORPTION and the consequent formation of secondary abscesses are, I take it, rare events, requiring for their occurrence an open vessel, and other obvious conditions not very likely often to concur. But the surgeons tell us that *secondary abscesses* are not rare—how, then, are we to account for their frequency?

I might, very satisfactorily to myself, close this paper by stating that Mulders' rejected hypothesis furnishes the only true clue to the right understanding of the metamorphoses of the food and blood, and of the formation and development of the blastema; and that as the blastema (teroxide of albumen) is formed in the blood, and as it is admitted on all hands that organization can take place within the vessels, I see no difficulty in the way of assuming that pus is sometimes also formed there directly from the blood, and that this is a more frequent cause of secondary abscess than purulent absorption.

But, as practical men never assume anything (?), I will run rapidly over Mulders' hypothetical metamorphoses of the blood, and endeavor to show, with great brevity, that this view is at least worthy of careful reconsideration by the judicious practitioner of surgery.

The plastic element of the blood is, essentially, pure albumen—albuminate of soda as it occurs in the serum. Pure albumen, which forms, as it were, the nucleus of the albuminate, is insoluble in water, and it is neutral and basic, that is to say, it combines with acids and alkalies. It occurs in the blood in combination with soda, and it also contains sulphur and phosphorus, and a variety of salts.

The albuminate of soda is insoluble in water, and in a solution of the salts of serum; but it is taken up by alkaline solutions, and by a solution of the salts of serum, to which an alkali has been added.

The apparent solubility of this body in the serum of the blood, would seem to depend upon the presence of soda. If this be true, either free soda exists in the blood, or albumen is insoluble in the serum.

The physiological relations of the albumen of the serum may be summed up in a few words: it is a transition body formed from the plastic elements of the food to be converted into fibrin by oxidation. It is at once a reserve of nutriment, and a vehicle for the transmission of inorganic matters required in the formation of the tissues and secretions.

Fibrin is formed by the oxidation of the preceding body. Oxygen combines with the sulphur of the albumen, and forms sulphuric acid, which, uniting with the soda, forms sulphate of soda, which is dissolved in the serum.

Oxygen now combines with the albumen thus deprived of a part of its soda, and this deprivation on one hand, and oxidation on the other, constitutes essentially the metamorphosis of albumen into fibrin.

Fibrin is insoluble in the serum, and in a solution of the salts of serum; but when soda is added to the solution it rapidly disappears.

There is, then, no free soda in the blood; this alkali, which is supposed to be essential to the fluidity of albumen, is not dissolved in the serum, but is held in combination with that body, which, therefore, is not, itself, in solution—it is suspended.

Fibrin occupies the physiological position between the albumen of the serum and the teroxide of albumen. It is a transition body, not osmotic, and but barely capable of suspension.

The teroxide of albumen is formed by the oxidation of fibrin. Oxygen combines with the sulphur and soda as before described, reducing still further the quantities of these bodies. Another equivalent of oxygen now combines with the protein nucleus, and it becomes soluble and osmotic. Thus oxygen replaces soda, and gives solubility to albumen.

The teroxide of albumen, incorporating inorganic matters common to the tissues and secretions, forms the blastema from which the organism is produced; it still contains soda and phosphorus. Oxygen combines with the latter, and forms phosphoric acid, which, uniting with the former, gives phosphate of soda, and this body carries off the carbonic acid generated during the formative processes.

It is scarcely necessary to say, that this is the briefest possi-

ble notice of the "Protein Theory," that will admit of *ideal* modes of oxidation, introduced in order to give an interrupted view (to correspond with the three forms of albumen) of a process obviously continuous. There can be no doubt that fibrin is, simply, albumen imperfectly oxidized, having neither soda nor oxygen enough to keep it in a fluid state, except under the conditions found in the circulating blood.

Let us now look at this subject from another point of view. Modifications of fibrin have been described under the terms, "parafibrin" and "bradyfibrin," as occurring in the blood during inflammation, and also in vesications. They are said to indicate the highest degree of inflammation. These bodies have also been termed rarefied fibrin, being of less specific gravity than ordinary fibrin, and capable of traversing the walls of the vessels in consequence of extreme tenuity.

These are but different names for blastemic albumen, which is found in the blood in increased quantity during inflammation, and also in inflammatory exudations, and this increase it has long been maintained is the cause of the inflammation. Why?

The blastema is, unquestionably, produced more rapidly in the blood during the existence of inflammation than it is in health; but this increase has been mistaken for the *exciting cause*, whereas it is but the *predisposing cause*. Even when it acts independently of injury, or any of the external causes of disease. For example, the entire volume of the blood may be largely increased over and above the quantity demanded by the normal wants of the system, and thus give rise to excessive functional activity of a secretory organ which, if prolonged, will assuredly induce inflammatory action in the organ thus affected; but it will be seen at a glance that the increased quantity of blood (plethora of the old writers) is but the predisposing cause, while the activity induced is the exciting cause.

In traumatic inflammation the case is different; instead of the whole volume of the blood being increased, the metamorphoses of albumen take place more rapidly than in health, and consequently fibrin and the teroxide are found in increased quantity.

The *rationale* is very simple; the injury has given rise to neurile reaction, which is attended by increased frequency of respiration, and oxidation is proportionately active. Here the increase is an effect, and not a cause; but as it is contended that it is a cause, and always so, and as inflammation is made up of reaction, oxidation, and exudation, I would ask how inflammation, as a whole, can be produced by one of its parts, or stages, and that stage a secondary one?

Reaction is a vague term; but in the present state of our

knowledge of the nervous fluid, we are compelled to use a general term. Were we acquainted with this *imponderable* as we are with the blood—did we know its laws—or could we tell its aberrations, then much that is occult would be revealed, and maladies now often terminating in death, would be detected in their incipiency, and be prevented. This is the great desideratum in medical science, and it offers to some benevolent philosopher and physiologist, who alone can handle it, a subject worthy of all his powers of observation and reflection.

But this much we do know, as the *reaction*, either local or general, is diminished in intensity, the products of the nutritive process are degraded in character.

To conclude, let us look at our question from a third point of view. Mr. Paget is of the opinion that, "In the case of abscesses and acute inflammations, we may discern no more of purpose than in any other disease;" but as few men have developed—*design*—with more clearness and ability than he has done, we assume that he discerns a purpose in every malady, and like the learned and devout Duncan, sees "God in disease," in the wisdom manifested in the processes. But he asks the question, "Can we assign any use or purpose to the process of suppuration?" and it suits my purpose to answer it. I take it that, generally, the principal design in the formation of pus is to get rid of an excess of blastema. Now, it is very plain that if any organization can take place within the vessels, and no one doubts it, pus can also be formed there; for, what is pus but an organization, a degraded organization, the degradation being due to the excess of blastema, the *reaction* not being equal to the task of organizing the whole of it into analogous elements. It is not necessary, therefore, that pus be absorbed to produce secondary abscess, for it can be formed within the vessels; and there are cases, occurring in broken-down subjects, in whom, from loss of reactionary power, this lower organization is rapidly produced; it is, therefore, in such subjects, during local inflammatory action, of importance to facilitate "*pointing*," in order to discharge the matter, for the reason, that if an opposite course be pursued, secondary abscesses may result from breaking up the stasis of blood before exudation has taken place, and pus be formed in the blood as a consequence.

A word more on the teroxide. It is often the case in inflammatory dropsies, that protogenetic albumen is found, owing to its extreme dilution, unorganized in the effusion. It has been described under various names—"*metalbumen*" "*paralbumen*," etc.—and chemical distinctions have been drawn between them, but there is really no difference. The

reagents usually employed to detect albumen are affected by the inorganic matters, either in combination with the ter-oxide, or in solution in the serum. It should be remembered that albumen is insoluble, neutral, and basic, combining with both acids and alkalies; hence its solubility, and its different behavior to the same reagents, according to its acid or its alkaline combinations, the affinities of the salts in solution, for the reagents also modify the result.

I might extend this article over many pages, but the reader will find all that I can say much better expressed in the books if he will but search for it, and from the same sources he can glean strong arguments to refute that which I have advanced. Should it be the means of inducing any to study the chemical physiologists as the surest lights of medical science, I shall not have written in vain.

ART. VI.—*On the Radical Treatment of Reducible Inguinal Hernia, with the Description of a New Instrument, and a Report of successful Cases.* By J. W. RIGGS, M. D., of New York.

WITH the view of inviting the profession to the further investigation of the merits of this *new* operation. I submit, herewith, a brief account of its results, so far as they have transpired and are known, in all the cases in which, to my knowledge, the operation has been performed, together with a description of the instrument employed, the method of operating, and such remarks and suggestions as may be deemed relevant to the subject.

In order, however, to correct any misapprehension there may be as to my connection with the introduction of this operation for the radical cure of hernia, I will also state, that it was proposed and its different steps described by the writer, to a gentleman of this city, in the summer of 1855, when great confidence in its success and its comparative safety and utility over the various methods hitherto employed, was also expressed. These favorable opinions have been strengthened and confirmed by the results hereinafter stated.

For reasons not necessary to mention, the idea of subjecting the operation to the test of actual experiment was abandoned until the fall of 1856, at which time the subject was again resumed, with the determination, *if sanctioned by competent surgeons*, of performing the operation the first opportunity. Accordingly, during the fall and winter, I conferred with distinguished surgeons of this city and elsewhere, as to its probable safety and utility, all of whom, without exception, responded to my proposition in the most flattering terms of

approval and acquiescence, as to the propriety of the operation. My next step was to procure an instrument to be made, for which purpose I placed in the hands of my instrument maker, Messrs. Tiemann & Co., a pencil drawing, and, after a few days, procured my instrument, very perfect in all its parts. This was also submitted to the inspection of several eminent surgeons here and in Brooklyn.

Considering the unqualified approbation of so many distinguished surgeons an ample guarantee for the undertaking, I proceeded next, in search of a suitable subject for the operation, to visit the different hospitals in New York and Brooklyn, and the State Emigrant Hospital on Ward's Island, at which latter institution, and after repeated visits to each, the first case presented itself on the 2d day of May last.

On the day and at the place last mentioned, then, this operation for the cure of hernia was first (it is believed) performed by Prof. Carnochan, with my instrument, and assistance, in some of its unimportant steps, and in the presence of several practitioners and students of medicine.

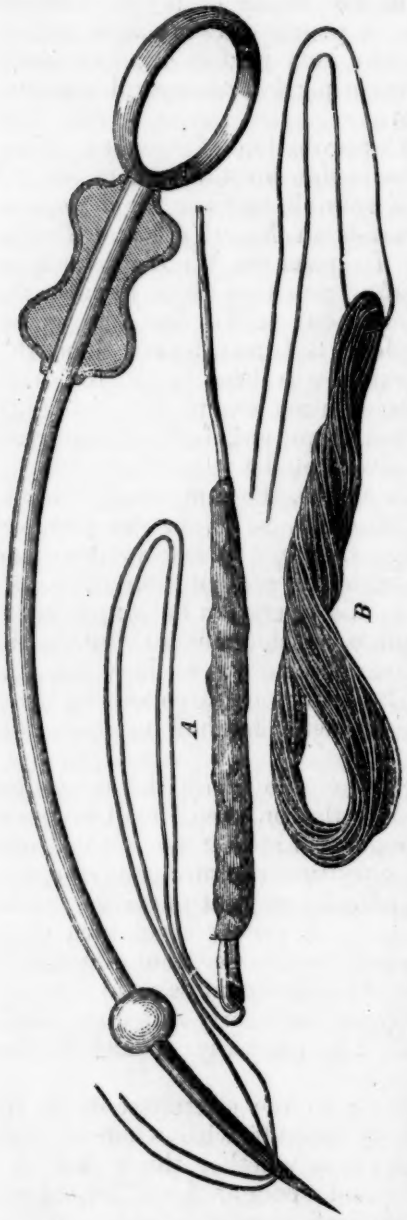
On the 20th day of the same month, the same operation was performed by myself, near Plainfield, N. J., in the presence of Drs. M. M. and E. Friselle. During the last summer and fall, and at various intervals up to the present time (Feb. 15), Dr. Carnochan has performed this operation on six different patients, one of whom had double hernia, thus making, in the aggregate, eight operations since the 2d day of May last, the date of the first operation. (The history of these will be given after a description of the instrument, method of operating, etc., which now follows.)

The instrument devised for and employed in this operation, and which seems well adapted to the purpose, in all respects, bears some resemblance, in its general appearance, to the ordinary trocar, excepting in its curvilinear figure, and the bulbous extremity of the canula, and, for present purposes, it may be called the "Hernial Trocar." A very correct idea of its form and construction is afforded by the wood-cut illustration on page 216, which represents the instrument used in the foregoing operations, very perfectly and of nearly full dimensions, and will, therefore, supersede the necessity of any farther description.

Operation.—Before proceeding in the operation itself, the surgeon will, of course, provide himself with whatever substance is to be drawn into the canal, whether this consist of a small skein of silk, or compressed sponge, the latter, in our estimation, being entitled to the preference.

The patient, placed upon his back, with the *hips somewhat*

elevated (a good precaution, particularly when the openings are large, and the viscera liable to escape, while in the horizontal position), the surgeon, standing or sitting at the right side of the patient, after reducing the hernia, places the index finger of the left hand upon the integuments of the scrotum, anteriorly and at a point *not higher* than the juncture of the lower with the middle third of the pouch. Sufficient pressure being now made with the finger to catch and hold, upon its end, the tegumentary tissues of the scrotum; these are now to be carried, upon the end of the finger, upward over the testis and arch of the pubes, until, immediately above the bone, the abdominal ring is easily found, and into which the end of the finger readily becomes fixed; where, as a guide to the instrument, it is to remain stationary, until the bulbous extremity of the canula is made to take its place *fairly* and *securely within the external ring.* The instrument, in the right hand of the operator, and held at the serrated portion of its handle, between the thumb and fingers, something after the manner of holding a pen, is passed into the pouch of the invaginated scrotum, and made to glide along and upon the back of the finger to its destination within the ring.



The finger may then be withdrawn, and the left hand being now

liberated, the thumb of this hand may be placed at a point opposite the internal ring; where, by pressure, all danger from any tendency there may be to partial protrusion of the intestine through the internal ring can be effectually obviated, while, at the same time, the pressure thus exerted at this point, tends materially to facilitate the passage of the instrument through the tissues. The instrument is now carried forward until the bulb approaches as nearly as practicable to the internal ring, when the handle is depressed upon the pubes, which serves to elevate its bulbous extremity, causing a prominence upon the surface, and indicating both to the touch and to the eye the exact point of its exit through the integuments. The operator now places the index finger of the right hand through the ring of the stylet, and with a single movement of the finger thus placed, pierces all the tissues involved in the operation, and brings the point and eye of the instrument into view upon the surface opposite the internal abdominal ring.

The surgeon, or his assistant, now arms the stylet, by passing through its eye, for an inch or more (as seen in the plate), the free ends of a slender cord, or tractor, previously passed through the silk or sponge; when, by a single reversed or backward movement of the finger, which is still in the ring of the stylet, the instrument is entirely disengaged and freed from the tissues, being still, however, concealed from view within the pouch of the invaginated integuments. The entire removal now of the instrument, leaves the free ends of the tractor passing through the puncture in the scrotum, and hanging loose below. These are now seized, and by the necessary traction, the foreign body is drawn from above into the passage, to the distance of some two inches or more, and leaving its upper extremity protruding from the puncture above; when, dropping from his grasp one of the ends of the cord, the surgeon, by means of the other end, draws it entirely out, and thus completes this bloodless and comparatively painless procedure.

Dressing, treatment, etc.—In ordinary cases, where the apertures are not very much distended, and in most cases, especially when the sponge has been employed, there are, at first, few indications for interference; none, indeed, beyond the necessary precautions to prevent the escape of the viscera, and, as before stated, when the compressed sponge is introduced, the secretions absorbed by this substance soon expand it so as, with the swelling and increased rigidity of the tissues which necessarily ensue, to effectually prevent the occurrence of the event alluded to. Independently, however, of the foregoing consideration, a given amount of equable and uni-

form pressure is requisite, in order to effect the occlusion of the passage, by means of the adhesive inflammation, to produce which the operation is designed. For this purpose, I am aware of nothing better than the introduction, under a bandage, firmly drawn around the pelvis, of a large sponge, previously dipped in water. This retains moisture longer than the cloth compress, does not so effectually exclude the air, and thus hinder or prevent the cooling process of evaporation from the inflamed part, while the pressure exerted by it is more equable and agreeable to the patient, and it thus fulfills at once, and in a very satisfactory manner, several important indications in the treatment.

I am aware that the foregoing suggestions, relative to the treatment *subsequent* to the operation, may be regarded by the professional reader as supererogatory or arrogant, and I have been induced to offer them only from a consciousness of having witnessed very many instances of failure to cure hernia, simply from too great and too long continued pressure during the inflammation; the inevitable effect being to prevent that free and plentiful deposit of plastic lymph, on which the permanent closure of the hernial apertures and consequent cure of the malady is almost entirely, if not wholly dependent. These disastrous results have been repeatedly seen by the writer, both in cases where the cure was attempted by injection of the sac, and also when the requisite inflammation had been induced by the *truss*, and resulting in *apparent* cure; but when, by the continued and persistent application of undue pressure, absorption of the new deposits (which might be expected), and consequent destruction of the delicate and tender adhesions, and re-opening of the hernial passage, have resulted from the unintelligent use of the very means intended for the cure of the disease. (The case of C. Randolph, found below, will serve as an illustration of this important principle.)

The following report of cases, at Ward's Island, was placed in my hands by Prof. Carnochan.

Case 1.—Aloys Lechnor, German, aged 47 years, was admitted to hospital April 1st, 1857. Had inguinal hernia of right side; tumor of the size of a hen's egg; of one year's standing, and had recently passed the external ring into the scrotum. On the 2d day of May last, Prof. Carnochan performed the operation above described, by drawing into the canal a small skein of silk previously immersed in tr. iodine. After some forty-four hours, this was removed, and a light French truss applied over the inguinal canal, for the double purpose of opposing the descent of the viscera and of promoting adhesion. For about one week there was a very slight

oozing of pus (a few drops each day), from the puncture above, the wound below having entirely closed within a few hours after the operation. The patient experienced no pain, nor was there any appreciable constitutional disturbance at any time manifested in the case. Patient continued in the recumbent position mainly, for about four weeks; when, there being no appearance of hernia, he was permitted to leave his bed, and, after a few days, to lay aside his truss, having, as he said, no further use for the instrument.

In the latter part of July, symptoms indicating the necessity of medical treatment were developed, and this patient was accordingly transferred to the medical department, where, on the 9th day of September, he died of tuberculosis of the lungs.

Post-mortem—10th Sept.—Upon opening the cavity of the peritoneum, the orifice to the hernial sac could not be traced, the internal ring being firmly closed around the cord. On the outer side of the peritoneum, and just below the situation of the internal ring, was found a small rounded body of a yellowish color, supposed to have been the remains of the hernial sac. The *upper portion* of the inguinal canal, for nearly an inch, was closed by plastic exudation, which had become organized and somewhat fibrinous in its appearance; while the canal at its lower part and the external ring, were, to appearance, in their normal condition, though the cord, throughout the entire length of the canal, seemed to be imbedded in plastic formation.

The skein of silk used in this case being too large for the puncture made by the instrument, it was not introduced more than about one inch, which will explain the facts mentioned of the lower portion of the canal and external ring being in their normal condition; while, at its upper portion, both the canal and internal ring were firmly closed.

Case 2.—Henry Schoby, German, aged 16 years, admitted July 17th, 1857. Inguinal hernia of right side, of two years' standing; tumor medium size, and passed into the scrotum; external ring flabby and relaxed, and easily admitted of introduction of the finger; operation, same as in case No. 1, performed August 1st. The silk was removed forty-eight hours after operation. August 7th, the wound was closed; effusion of lymph not large. This patient was confined mostly for four weeks, when, after the application of a weak truss, he was allowed to leave his bed. After some ten days, the truss was dispensed with, and the patient left the hospital much improved, with a small hernial projection, however, opposite the internal ring. In this, as in the former case, there were no constitutional symptoms worthy of note.

Case 3.—Justinus Herbel, German, aged 26, admitted September 30th, 1857. Inguinal hernia of left side descending into scrotum; tumor size of a turkey's egg; external ring large and relaxed; operation as before, by Dr. Carnochan, November 11th. Silk removed on second day; copious effusion of lymph throughout the canal; patient confined about four weeks; gentle pressure by means of compress, secured by bandage around the hips. This patient was now permitted to leave his bed, and also had weak truss applied, which was continued for about six weeks, at which time it was dispensed with, and, after some three weeks, left the hospital, with no appearance of hernia having previously existed.

Case 4.—Christian Luder, Switzerland, aged 40, admitted October 15th. Double inguinal hernia, of three years' standing; external ring of left side very large, measuring, in its greatest diameter, one and a half inches; tumor of this side the size of a large hen's egg; opposite side, ring also very much enlarged, and the tumor as large as a man's fist; operation 28th of November; the silk, imbued with tr. iodine, removed second day; exudation of lymph apparently not large; operation on opposite side, on 23d January, 1858, using, in this case, an elongated piece of compressed sponge, previously saturated with tr. cantharides. This was also withdrawn on the second day, and followed (as also on opposite side), with a considerable discharge of pus at the upper puncture, which continued some ten days. Slight and equable pressure was maintained upon the canal, and the patient who is still (Feb. 15) under treatment, is confined to the horizontal posture, though permitted occasionally to walk about the ward without the truss; the hernial tumor has not made its appearance on either side, and the passages seem to be blocked up.

Case 5.—John Carsten, Swiss, aged 48, admitted August 23d. Large scrotal hernia of right side, of 15 years' standing; tumor size of two fists; operation by compressed sponge, January 23d, 1858; tent removed second day; suppuration scanty; effusion of lymph considerable; moderate pressure, by means of compress and bandage, maintained during the last three weeks. This patient was under treatment for laryngismus, of which he has had frequent attacks since the operation, causing violent action of the abdominal muscles, from which cause (it is believed), the hernial tumor has reappeared in the canal, though, in no instance has it descended into the scrotum; whereas, previous to the operation, no form of bandage or truss, which had ever been tried, would prevent the descent of the contents of the tumor. This patient, still under

treatment, is confined to his bed, and in the horizontal position.

Case 6.—George Schaffer, German, aged 53, admitted December 17th. Scrotal hernia of right side, over twenty years' standing; tumor size of full grown fœtal head; impossible to retain the parts by any contrivance ever employed for the purpose; the rings both very large, and the internal so dragged down as to render the passage to the abdominal cavity very nearly direct; operation January 20th; silk saturated with iodine; was withdrawn on second day; slight discharge, continued two days; experienced some pain for three or four days after operation. At this time (Feb. 14), two weeks after the operation, the patient is still under treatment, keeping mainly the lying posture, with moderate pressure by compress. While standing and walking, the viscera have not as yet reappeared.

Case 7.—(This case, which fell into my own hands, and continued under my care and observation throughout, occurred on the 20th of May last, and is, therefore, the second operation in point of time, and is inserted here to give the hospital reports in consecutive order, as they were placed in my hands.) C. Randolph, N. J., aged 63, laborer. Scrotal hernia of right side, twenty-six years' standing; tumor large, and uncontrollable by truss; operation 20th of May, 1857. The silk, previously immersed in tr. iodine, was removed in forty-three hours; one or two drops of pus escaped at the time, after which none was discovered; cloth compress, confined by bandage and making moderate pressure, applied; the parts somewhat swollen, and tender to the touch, but not painful; ordered anodyne at night (morph. sulph.), if required; compress to be kept wet.

May 23.—Had slept well without anodyne; surface somewhat heated, but moist; pulse 85; tongue clean and moist; appetite good; no pain or thirst; swelling and soreness considerably increased, but confined wholly to inguinal region; cord quite rigid and tender to the touch. Ordered bowels opened by laxative (mag. sulph.), anodyne if necessary; for cloth compress, was substituted a large sponge, ordered to be kept moist with water. 24th.—Bowels opened; had slept well without anodyne; pulse 90; tongue clean; swelling and tenderness increased, still circumscribed in extent; no pain; appetite unimpaired. At this time a portion of omentum (as it appeared), had found its way through the internal ring, which from the rigidity and soreness of the parts, I was unable to return. Ordered only occasional wetting of the sponge and careful observance of the horizontal posture.

25th.—Found no essential change except some increase of the

swelling and tenderness, with corresponding increased frequency of the pulse. The patient at no time complained of pain, nor was there sufficient constitutional disturbance to excite the slightest apprehensions. From the last mentioned date there was nothing in the case worthy of note, except the gradual subsidence of the swelling and soreness, which had entirely disappeared by the 5th June (fifteen days after the operation), at which time, after the application of a truss, the patient was allowed to leave his bed. It may here be stated, that I applied this instrument with great reluctance, remarking to the physicians present at the time that I did so only because I had nothing better, and preferred to risk the anticipated injury from its use, to that of a return of the hernia for want of the necessary support to the delicate adhesions so recently formed. Though there were now not the slightest indications of hernia in this case, my fears, as then expressed, were, and I then predicted, that the constant pressure of the convex truss pad upon these new and tender formations would probably result in their absorption and the consequent reopening of the hernial apertures within six months. I continued to see this man at various intervals up to last October, when, for the first time, I discovered increased fullness over the inguinal canal, which, upon careful examination, I had no doubt was caused by intestine in the canal. Again, very recently, I visited Mr. R., when on removing the truss, a tumor nearly as large as a hen's egg soon formed and descended to and occupied the *precise situation* where the pad of his instrument had rested. The ring upon this side, as compared with that of the opposite side, is smaller, more rigid and firm to the touch, and there is every reason to hope it will effectually oppose the farther escape of the viscera, so long as it remains exempt from the injurious and destructive consequences which invariably and inevitably result from undue and long-continued pressure.

Remarks.—Of the operations and devices employed for the radical cure of hernia, it is not our purpose to speak, except merely to enumerate most of them, and in the language of others, to record in general terms the verdict of the profession as to their merits.

These consist mainly of the following: castration; cauterization; ligature; incision; excision; scarification; dilatation; acupuncturation; invagination; injection; organic plugging, either by the testis or the sac, or dissected integuments or invaginated skin; drawing into the canal a bag of gold-beaters' skin or shreds of gelatine; perforations of the sac with pins, or of the canal with needles, suture, etc. In the report of a committee of the *Amer. Med. Assoc.*, consisting of Drs. Hayward,

Warren and Parkman, of Boston, the following statement occurs: "All the operations that have been practised for this purpose, till within the last fifty years, have been of a severe character; some of them dangerous, and in many instances death has been the consequence. Ligature, sutures, excision of a part or whole of the sac, and castration, were the principal operative methods in use for eighteen hundred years." Again, in the same report, is found the following language: "the mere fact that so many have been suggested and tried, and that none of them have been received with a great degree of favor, or if so, that they have not retained it for any considerable length of time, is strong presumptive evidence that there is either an inherent difficulty in the nature of the infirmity that is intended to be removed by them; or, that the means of accomplishing it have not yet been discovered."

The committee above referred to will at once be recognized by the profession as eminently qualified, in all respects, for the task assigned them by the *Amer. Med. Assoc.*, and the conclusions to which they arrive in the final summing up, are in strict accordance with, and fully supported by, the best authorities on this subject.

What, then, are the "inherent difficulties" in the way of the more successful treatment of reducible inguinal hernia? We answer. From the opportunities afforded us for witnessing the results of several different methods of treatment, and the supposed cause of failure in these, we are strongly inclined to the opinion, that the comparatively low *vascularity*, and correspondingly low *vitality* of the tissues immediately concerned in hernia, constitutes *one* of the "inherent difficulties" spoken of; and that in consequence of this low vitality, the *milder* and *safer* of the means hitherto employed have been *inadequate* to the production of the necessary inflammation in these tissues to cause occlusion of the hernial apertures by adhesion.

Again, it may be observed, in a large majority, if not in all, the surgical operations which have been practised for the radical cure of hernia, the truss, or its equivalent, acts a conspicuous part in the after treatment; and though it is a well-settled principle, and universally known and admitted by the medical profession, that continued pressure upon the animal tissues causes absorption of the tissues thus acted upon; yet it is a singular fact, that in their attempted explanation of the frequent failure to cure hernia by the different methods used, *pressure* is seldom or never mentioned by writers as a cause, whereas, there is just grounds for the belief, that *undue pressure* upon the recent formations has contributed its full quota of failures by the various operations practised.

That there may be other obstacles or "inherent difficulties" to be encountered in the radical treatment of this infirmity, is not improbable, and the question here suggests itself, whether the constant undulations of the abdominal parietes, and the ever varying and almost incessant movements of the muscles and other tissues involved in hernia, are not deserving the attention of the surgeon.

Assuming, then, that the great want of success hitherto has been owing in part, if not mainly, to the foregoing causes, the question next to be considered, and which is of paramount interest, is, can these difficulties be obviated or overcome? With all due deference to those who differ from us, we are constrained to give an affirmative answer to this important inquiry; at least, we hazard the opinion, that the impediments to success above noticed can be so far overcome, as that the radical cure of reducible inguinal hernia shall be considered the *rule*, and no longer the *exception*.

With regard to the first-mentioned difficulty (the low vitality of the tissues concerned), we remark, it has already been sufficiently demonstrated, and is a self-evident proposition, therefore, that the introduction into the inguinal canal, throughout its length, of a sponge or other foreign body, previously imbued with iodine, and of such dimensions as literally to fill up this passage, and thus bring in contact with the tissues the irritant employed, will effectually serve to produce the inflammation requisite for all practical purposes.

The subject of *pressure* is next to be considered; and the question here arises, can the *necessary* pressure be applied without evil results? To this inquiry we also respond affirmatively, and proceed to state, that a truss, so constructed as that the force or power of the spring shall be exerted at separate and distinct points or intervals *contiguous* to the canal, on either side (and not *upon* it), and maintaining also the same position relatively to both the internal and external rings, will, as may be seen, accomplish this object in a very perfect and satisfactory manner; and while it thus affords the support necessary to prevent the escape of the viscera, it also serves effectually to approximate and hold "in situ" the tissues traversed by the hernial openings; thus contributing very materially to their union, and the consequent occlusion of the passage. Again, as the "multipedal truss" exerts little or no pressure either upon the canal or spermatic cord, and may, therefore, be worn for an indefinite period without injury, its use may be continued after the operation until the recent fibrinous deposits have become perfectly organized, and sufficiently firm to resist the descent of the viscera.

As to the third and last proposition, viz., the mobility of the tissues concerned in hernia, we have only to say, that if the noduled face of a truss-pad properly applied to the parts does not confine the tissues sufficiently for all practical purposes, we are aware of no means by which to accomplish this object. It is believed, then, that if the necessary inflammation take place in the parts, and nature be properly *aided* (rather than *thwarted*) in carrying out her own unerring laws, the *cure* of hernia by the means proposed, would, as before stated, become the *rule* rather than the *exception* as it now is.

My attention has, within a very few days, been invited by Professor Armsby, of Albany, to a new instrument devised by him, and with which he had, either in November or December last, operated with favorable results for the radical cure of hernia. The operation of Professor Armsby, as described by himself, consists in drawing through the hernial sac a single thread, which is left protruding both above and below, to be drawn back and forth daily, and to remain in the wound some two weeks or thereabout, during which time the suppurative discharge which is occasioned by it escapes, or is forced out at the puncture through the tegumentary tissue of the scrotum. The manner of performing this operation, as detailed also by the doctor, is similar to that described in the foregoing pages, for the introduction of the compressed sponge and other substances employed.

An operation by *seton* is also described by Velpeau,* as having been performed by Dr. Moesner with success, in four cases. For the details of this operation, somewhat lengthy (and to me incomprehensible), the reader is referred to the above work.

The object of this paper being, as before stated, to invite farther investigation of the merits of the operation described; the discussion of the many methods heretofore tried for the cure of the malady, will not, we repeat, now be attempted.

As to the merits of the operation practised in the cases here reported—and by which it is designed to bring about union by the first intention—those who may become sufficiently interested to test it by actual experiment, will, of course, decide for themselves.

That there are, however, points of interest connected with its history thus far, and that this operative procedure possesses several important advantages over any of those hitherto practised, is believed to be undeniable. And I must be permitted here to add, if reducible inguinal hernia be curable *at all* (and we believe it to be so in a majority of instances when the obliquity of the canals is not lost), it may be accomplished by the method above described.

* VELPEAU'S *Operative Surgery.*

The reader will have noticed that, in the eight operations above given, were comprised persons of various ages, ranging from sixteen to sixty-three years. There are also found among these, ruptures of all dimensions, and, in point of duration, varying from one to twenty-six years. Some of these were under treatment for other diseases, and *none* of them can be regarded as the most favorable subjects for any kind of surgical operation.

Notwithstanding the fact, that among these, was not *one* which would have been *chosen* for an untried operation, yet it is seen by the report, and is well worthy of mention, that in no instance was there sufficient constitutional disturbance scarcely to attract attention. The operation itself is very simple, and equally safe; is attended with no inconvenience to the operator, and to the patient, with comparatively no pain.

Before leaving this subject, and with the view of impressing upon the reader its importance, *practically* considered, we would recall to his mind, that if the estimates of the proportion of ruptured persons, as given by different writers, are at all reliable, there are in this city and immediate vicinity, *over forty thousand* cases of hernia. And, moreover, if the history of its treatment in the past be considered a fair criterion for the future, the inference is fully warranted, that a large majority of this vast number are doomed to perpetual peril and life-long martyrdom, unless rescued by the timely interference and *more efficient* aid of the humane and philanthropic of our noble profession.

87 Prince street.

ART. VII.—*Address Delivered at the Commencement of the Winter Course of Clinical Instruction in the Bellevue Hospital, on the 19th of October*, 1857: WASHINGTON SMITH, ESQ., Governor of the Alms-House, Presiding. By JOHN W. FRANCIS, M.D., LL.D., President of the Medical Board, and Senior Consulting Physician of the Bellevue Hospital. Reported by Dr. GEO. F. SHRADY.

Governors of the Bellevue Hospital, Physicians and Surgeons of the Medical and Surgical Department, Professors and Students devoted to the Science of Healing:

I shall address to you a few words on the occasion of this important meeting, the first regular opening of the session for Clinical instruction in this new Institution.

I come before you with no set form of speech. Long acquaintance with the projectors of this new and important plan for enlarging the sphere of clinical instruction at this hospital, and sincere esteem for their professional worth and characters, have led me once again to

assume the office of a medical instructor, so far as the casual remarks I may offer to-day would justify such phraseology. Friendship has brought me before you, and I am prompted by a desire to do all in my power to favor a measure which I think must be attended with the most beneficial results to science and humanity. I shall deal with a few important facts, the results in part of a long life devoted to medicine, interspersed with a few observations, and rendered, perhaps, more acceptable by here and there a reflection deduced from the subject matter which flows in upon memory.

Students of medical and surgical science: when I cast a glance at this assembled multitude before me, when I study the ingenuous countenances you bear, look at that intelligent front, and its earnestness of expression, and witness that thoughtful demeanor which marks your every act, I cannot but believe you have come hither with a fixed determination to enter upon the study of the art of healing with the liveliest sense of its importance, and a just estimate of the means now afforded you to obtain a mastery in your great calling. Many of you are strangers to me at this first interview: I see that some of you have arrived from remote places: in short, you have come from the east and from the west, from the north and from the south, speaking in popular terms; but, thank God, New York never in her life has ventured to make such geographical distinctions. Her vocabulary admits no such sectional divisions. She holds out the banner, Union; she sticks firm to the original thirteen, she venerates that original phalanx of patriotism; and every member added to the confederacy since the birth of the Constitution only swells the emotions of gratitude which fill her heart: she hails all these as one family; whether your domicile be on the borders of the Atlantic or on the shores of the Pacific Ocean.

I have said, I have no set form of speech for this occasion. Little opportunity for preparation has been afforded; the best had been done for the few hours granted: but what flows from the heart will be received with confidence as the honest expression of one who has had some opportunities for observation, and has not been wholly an absentee from the reflections of the closet. Shall I then ask you what purpose has brought you hither? I myself will answer. You have visited this metropolis, because of its high renown, its great capabilities, its vast advantages for the prosecution of the sciences, whether mechanical or philosophical, and for its numerous facilities for medical and surgical instruction. In being actuated by such motives you have acted wisely: and I fondly trust that not one of you will return to his home without being satisfied with the results of the choice he had made.

There are a thousand circumstances which present themselves to consideration when we contemplate this great metropolis, as especially fitted for intellectual improvement, and for professional acquisition. Its multitudinous and diversified inhabitants, its cosmopolitan character, the innumerable avocations of its people, its variety of mental and physical occupation, its numerous institutions for the cultivation of let-

ters, for the beneficent purposes of humanity, for the blind, for the deaf and dumb, for the idiot and the imbecile, for disturbed and abnormal conditions of the intellect, for every variety and form of physical disorganization and disease that afflict mortals: these circumstances have influenced you. Moreover, provision most ample is made for all these states and conditions, and, with scarcely an exception, every institution thus appropriated is, I believe, accessible to the survey of every well-conducted student. I know no other place throughout the broadcast land where so many and so great advantages are within the reach of the ingenuous disciple and the man devoted to knowledge.

The history of New York furnishes you a striking example of what industry, enterprise, and capacity can accomplish. Her mercantile character is displayed in the story of her marine or naval architecture, from the time shortly after the first European placed his foot upon her land, when Adrian Block completed his vessel, the *Reckless*, of about sixteen tons burden, to navigate the waters of the New World, down to the present day, when forests of mighty masts and leviathan steamers from every port fill her harbor. A like feature of her indomitable energy, resembling that of her mercantile, is to be found in her great number and important charities, whose large and appropriate buildings stud the city everywhere. It is to these that the time not devoted to the instruction of your teachers, will be properly appropriated. These great charities or hospitals are to furnish you with the material of clinical knowledge, aided by the able elucidations of your professors.

It is most remarkable how early medical men of distinction were occupants of New York. During the career of the renowned Dutch governor, Petrus Stuyvesant, we find Samuel Magapolensis, a graduate of Leyden, eminent in practice, and distinguished as a writer. Some short time after, when the government fell into the hands of the English, the memorable death of the reckless Governor Sloughter, who was by some supposed to have died by poison, but by the more intelligent, known to have perished from a debauch, led to an event of scientific consideration in the progress of medical knowledge. Diversity of sentiment induced a post-mortem examination of the body of the defunct governor. Johannes Kerfbyl, also a graduate of Leyden, and five other doctors, conducted the inquiry, among whom we find Hans Kiersted, a descendant of whom now lives among us. I can readily imagine the peculiar gratification the Dutch doctors enjoyed in the discharge of this assigned duty; a profligate English governor, who, in a state of inebriation, had signed the death-warrant of the patriotic Leisler, was now to prove useful for medical and chirurgical investigation to professional men, who detested his misrule and folly. This dissection of Sloughter occurred in this city in 1691, and is the first on record in the American colonies. The population of New York was then about four thousand. The autopsic examination of Hermanus Carroll, by Drs. John Bard and Peter Middleton, is generally set forth as the first, but this occurred sixty years after. These eminent men may be recognized as distinguished in the art of healing:

they succeeded the philosopher, politician, and physician, Lieutenant-Governor Colden, some thirty years. The medical and philosophical career of Colden was followed also by Dr. John Van Buren, and by Johnston, a correspondent of Linnæus, and this special list of medical worthies might be enlarged by the names of Dubois, Ogden, and Muirson. John Jones, the surgeon, now followed ; and Samuel Bard, the associate of Clossy and Tennant ; I might here add the British army medical and chirurgical staff, with Bayley, Farquehar, Nooth, and Michaëlis, the son of the great commentator on the Scriptures, the best qualified, I believe, of that selection of men who did army duty for the British troops while occupants of New York. Bard knew him well, and I have enlivened my moments of despondency by anecdotes of Michaëlis and Nooth. But I shall close the catalogue, inasmuch as the body of skillful physicians and surgeons of a recent date is too formidable to introduce to your notice at this time.

This city is also to be mentioned as the first in point of time in relation to the early organization of public charities for humane and benevolent purposes. In 1699, when its inhabitants scarcely exceeded six thousand, relief was afforded the poor by medical men in lodgings specially provided : a dispensary was founded by John Bard. In Dr. McCready's late historical address, other and still more striking evidences are given of the devotion which this city, almost in its infancy, gave to medical and charitable institutions. About those times we had a Doctor Magrath, a Scotchman, of singular roughness, of whom I have often heard the venerable Judge Benson speak. Magrath has the merit of introducing the practice of cold lavations for fevers, long before the appearance of the Reports of Currie, of Liverpool.

The great Alms House, erected in 1791–4, deserves commemoration. It followed the establishment of the New York Hospital by some twenty years: this last-named Hospital is still in the career of its mighty usefulness, without abatement of zeal on the part of its able governors, and has secured a wide spread renown from the great and important operations in chirurgical science which have been performed within its walls, by the masters of surgery, who from time to time have been in attendance: that it has also been the means of unfolding many interesting views in the practice of physic is equally well understood from the clinical elucidations which have been published by its physicians and surgeons, and which have reflected on the medical science of this city peculiar renown. Richard Bayley, Richard S. Kissam, Wright Post, Valentine Mott, Alexander H. Stevens, are the strongest names I may mention in the surgical department: David Hosack, Valentine Seaman, James S. Stringham, Samuel L. Mitchill, Edward Miller, and Joseph M. Smith, may be recorded in the effective roll of its clinical practitioners.

We have at this present time some seven Dispensaries in this city, most useful charities for the relief of physical suffering, and for every variety of disease, and attended by competent prescribers of disciplined medical culture: the late Dr. Hugh McLean, who was early attached to the first city Dispensary, held that responsible trust for some ten

years and upwards, with signal benefit to the afflicted. We have institutions for the treatment of diseases of the eye and ear, founded some thirty years ago by Drs. Delafield and Rodgers; and more recently another of like purpose, at the head of which is Dr. Stevenson: but here I must stop with these minute details. When we record the New York Hospital, and Bellevue Hospital, and Alms House department, we have said sufficient to lead the examiner into their history and their progress to the conviction that no city in the Union possesses more ample accommodations designed to carry out the great behests of the benevolent, and by clinical opportunities to instruct the students in practical medicine and surgery. For the history of the early Alms House, when situated adjacent to our present City Hall, and its subsequent removal to its present site, I must refer you to Dr. McCready's interesting narrative, as my limited time causes me to pass over the names of the distinguished physicians who have exercised their art so beneficially within its walls. Nor can I but advert to the fact that this institution received a new impulse under the administration of Dr. Reese, as physician in chief. In fine, gentlemen, it is speaking in no exaggerated tone, to assert that in no other city of the Union can such ample sources of information of a practical nature in our profession be found as are within your reach in this place; and shall I add that the very knowledge which the institutions afford so abundantly, is the very science you require, if ever you aim at the high distinction of being sound physicians and surgeons.

I am the last man in the world who would lessen the value of book knowledge; I know that reading is indispensable to the student who cherishes the title of an enlightened doctor: more or less of bookish wisdom you are to accumulate if you are solicitous to make the prelections of your professors profitable; if you seek that fullness on any subject, that gratifies the inquirer after truth, and gives confidence to the reasoning faculties of man. But here a caution must be interposed; the folly of appropriating that time to reading which might be infinitely more advantageously given to observation when the teacher brings before you the apparatus of instruction, and elucidates with specimens the subject matter of his lecture. At the time of instruction your great duty is to be all eye, all ear; some few notes may indeed be taken, to aid the memory for further investigation; but no student, wisely pursuing the curriculum of the college or the clinique of the hospital, will reap an equivalent by books and pen, while neglecting well directed observation on the lecturer of the anatomical theatre, or the phases of diseased agency in the clinical sufferer. No reading ever made an anatomist; no reading ever created a physician. In our profession the aptest scholar can acquire but little substantial information touching the mechanism of the human frame, without dissection or tracing with attention the knife of the anatomical expositor; and, lucid as many of our practical writers are in pathological description, nothing but the exercise of the senses can impart full reliable knowledge of pathological phenomena. The pulse is to be felt, the respiration to be noted, the temperature to be observed; the eye is to be studied, the animal

functions to be watched, the complex workings of the brain to be regarded, if we desire to comprehend the nature of fever and of other infirmities. I had read between two and three hundred tracts and volumes on yellow fever before I witnessed that pestilence as it prevailed in New York in 1822, and which is so admirably described by my pupil and friend, Dr. Townsend; I had also had the fever myself, and lay at death's door with it years before; yet when this disorder was rife among us, I found I still had a good deal to learn. And how was it when the Asiatic cholera appeared among us in 1832: many of our medical men had read largely of the direful epidemic as it appeared abroad, but there was not a man among them that was not confounded when he personally encountered the disorder at the bed-side. And then we had an order of doctors among us who had written against the bug-bear contagion, and pronounced it the phantom of a diseased imagination; yet when the cholera came, they fled like sheep pursued by hounds. Among this corps of would-be fearnaughts was Ives, a sort of second Imlac. Put it down, therefore, as a medical axiom, as firmly fixed as a mathematical principle, that observation is equally essential for the acquisition of medical science and for the practical exercise of the art itself; that you might as well presume to become the successful navigator by sojourning in a sylvan retreat, as become the physician or surgeon without clinical instruction.

I have limited these observations to two or three departments of our profession, but their application is equally well founded when we look at the other branches to which your attention is called; where is chemistry to be illustrated but in the laboratory of the chemical professor; where is a knowledge of the tools which the physician demands in the practice of his high calling to be acquired, I mean the *materia medica*, but by an individual or personal acquaintance with the sensible qualities, and inherent powers of each article, as unfolded by pharmaceutical science. Was any man ever made a botanist without roving over the forests and the fields? Read the life of Michaux and of Pursh, if you desire to comprehend how the natural history of our vast country has been brought to light; consult the records Audubon has given us of his wanderings, if you have a longing to know how he became the greatest ornithologist the habitable globe has produced. I hope I am not too earnest in this matter, the value of observation, or what you might call personal experience. I tell you it is after all the only knowledge that can inspire you with undaunted confidence in the sick room, and fortify your conscience when you retire to your couch at night.

I shall never forget the tone of voice, the elocution which I heard proceed from the mouth of John Abernethy, when he told the boys (for he called all his class by that designation, though some were sixty years old), that they must judge for themselves for the truth of what he uttered by what they derived from hospital practice. "I was the first," said he, "that described fungus hæmatodes; I have seen as yet but three cases, but the disease is distinctive, well marked, and cannot be mistaken by the clinical eye: yet (added he), I meet practitioners now

and then who tell me they have had twenty cases. No dependence can be placed upon such observers. If they would but visit St. Thomas, I could convince them of their error, and expose their ignorance. These pests of the profession have no clinical experience, and magnify their stupidity by falsehood. Boys, the hospital is the college to build up the practitioner."

There is one other branch of our profession which, in these casual observations, I had like to have omitted, but which has demands upon your attention as strong, if not equally imperative as any I have noticed; I mean midwifery, or, as we more generally call it, through modern delicacy, obstetrics. Obstetrical science may fairly be considered in part chirurgical, in part medical. No practitioner, either of surgery or of physic, can be considered properly disciplined for the art of healing without a close and continued devotion to it. It calls for requisites, both mental and physical, of a superior order; it summons knowledge accurate and immediate; it often involves responsibilities the most weighty that can tax the capacity and feelings of man; it is that special branch of the profession upon which your reputation through life most depends; it is the one upon which, perhaps, the greatest happiness of families is secured, and in the practice of which your actions, your speech, nay, almost your very thoughts are studied. Incompetency in the duties which it enjoins is watched with greater vigilance than in any other branch of your calling: but it strikes, after all, a favorable balance in your behalf, provided you have manifested adequate skill in great emergencies. The services of the accoucheur are rarely forgotten in families; and confidence in the dexterous operator perpetuates lasting blessings on your head. You secure that reputation by midwifery which is rarely obtained by any other of your medical transactions. Many of you may be aware of the standing which the late Dr. Lloyd, of Boston, enjoyed as an accoucheur; and many of you are familiar with the great consideration to which the late Dr. Dewees, of Philadelphia, obtained. In this city, Dr. Samuel Bard has stood pre-eminent in the art. Bard was a graduate of Edinburgh, a ripe scholar, a conscientious man, and one devoted to his high trust. While a student, Smellie's system had nearly all the run, and that you know was the pernicious practice of the incessant use of instruments. Bard attended Mackenzie, of London, who, in part, protested against so frequent a recourse to instrumental labor. Both Smellie and Mackenzie had been more or less governed by Burton, of York. This Burton is the Dr. Slop, so famous in Sterne's Tristram Shandy. You must remember when Dr. Slop carries his green bag of instruments with him in his circuit of business, that Sterne tells you it was encumbered with an innumerable string of knots, rendering it difficult to get hold of the instruments. This was satirical, in order to prevent the doctor so heedlessly and so criminally handling such tools, in so many cases of practice. These facts may, in part, be novel to some of you, but they were so familiar as recorded by Laurence Sterne, that I have known students to go to the bookseller to purchase Sterne's Midwifery, just as I have known a practitioner solicitous to obtain Werner on Veins, a geological work, thinking it a

treatise on blood-letting. But to our subject. In the early condition of our colonial government, the practice of midwifery was in the hands of women. Atwood, of this city, was the first who advertised himself as a male accoucheur, and he conquered prejudices, and upon the whole was successful. The miserable attempts which, from time to time, have been made, first in Boston, about twenty-five years ago, and then in New York, to reinstate this branch of our art in the hands of females, have wholly failed. Every day's additional science more strongly speaks of the blessings secured both to mother and child by the management of parturition being confined to the regular licensed M. D., and that the practice of obstetrics should exclusively be discharged by the hardier sex. The latest statistics show, that since the art has been appropriated by the male practitioner, the mortality from parturition has diminished one half. Dr. Bard was so impressed with the value of this department of study that, while he was content that two courses of instruction might answer for other branches, he deemed three requisite to qualify a conscientious doctor for practical midwifery.

It is not my province, on this occasion, to assume the responsibilities of instruction, yet I cannot withhold the expression of my opinion, that I consider the work of Denman, the most valuable that has yet appeared on the science of obstetrics, so far as concerns the natural history of labor. Nothing in medical literature has ever surpassed the descriptive talents of that experienced and conscientious writer on that most important subject. The tyro in medical responsibility is doubly armed if he have fully imbibed the description, the principles, and reasonings of Denman.

It were almost superfluous to say, on this occasion, that if any branch of your practice calls in requisition the humanities, the refinements and the courtesies of life, the elegances of cultivation and the sympathies of our being, it is in attendance on midwifery cases. Old Dr. Raynalde, who wrote the first book on obstetrics in England, entitled the "Byrthe of Mankind, otherwise called the Woman's Boke," invokes the nine muses of Mount Helicon with their poetic spirit to breathe thereon, and he says that none need be offended thereat, at what he has written; for even boys may open the book as a tale of Robin Hood. Among his remedies in dolorous cases, he mentions mollifying unguents and sweet words; this recommendation is founded on good reasoning, and has antiquity to sanction it. Dr. Bard was most strenuous in enforcing like language. And as a general rule of practice in our whole career of duty amidst physical suffering and anguishing results, Bard often said, mellifluous accents made a surer road to business, and was an adjuvant of much value. "A spoonful of honey," said Dr. Bard, "will catch more flies than a barrel of vinegar." Take it altogether, we have had in former times able teachers in midwifery, and as I have said before, the science was first dignified as a distinct professional course of knowledge in King's College, New York, when Tennant was professor. Among our successive teachers, we could boast of Rodgers, Hosack, Osborne, Macneven. I had the honor to hold the chair many years, both in the College of Physicians and

Surgeons and in Rutgers' Medical College, in connection with Legal Medicine. Since the revolution, by the resignation of the old professors and by collegiate reform, the office of instructor in that branch has been held by Dr. Delafield, whose successor is the present professor, Dr. Gilman. But you are largely favored in the means afforded you for the study of obstetrics. Our three colleges at this very time unfold the science theoretically and practically with opportunities of practical improvement, such as modern days only afford. You have Dr. Bedford, the experienced teacher in the Medical University, and Dr. Barker, in the New York College, Thirteenth street: in the Bellevue Hospital you can justly boast of the great clinical expositions of Dr. Barker, the last-named teacher, of Dr. Taylor, and of Dr. Elliot. Such opportunities for practical wisdom in this most responsible study, yield of themselves compensation enough for a journey hither.

There are peculiar advantages possessed by New York for the prosecution of another great and specific department of our profession, I mean mental philosophy, both in the sound and in diseased condition of the mind. The early German authors first awakened attention to this vast subject, though Paulus Zacchias, the Italian, may be pronounced prominent among the great expositors, and the father of the science: but Germany is filled with disquisitions on this great theme. Latterly, France, Italy and England have came forward with a profusion of works illustrative of the perplexing phenomena of disturbed or unsound intellect; and insanity has become a specialty both of private and national importance. As disturbed intellect constitutes a large chapter in medical jurisprudence, and as this last-named study is daily drawing increased attention, we accordingly find that almost all our colleges have a professorship on the subject. It however first began in this country, in this city, by the energy of my predecessor in that chair, Dr. James S. Stringham, of New York.

Young gentlemen, you know full well that the popular opinion has long prevailed that the members of the bar delight to perplex and confound the doctors when summoned at court; and you further well know that many an eminent medical man has suffered in public estimation from the manner in which he has delivered public testimony in criminal cases. Our own courts have often furnished examples of that sort, and the recorded evidence exists of like occurrences abroad. The great John Hunter made, on a memorable occasion of that nature, a sorry figure indeed. And if so preëminently renowned an anatomist prove delinquent, what chance has the ignorant of escape from censure and loss of professional estimation? Let, then, the student include among his studies the leading principles of medico-juridical science, and ever feel alive to the value of reputation, where he has so advantageous an opportunity of dignifying his profession. The late Thomas Addis Emmet, the great jurist of the New York bar, had been reared as a physician, and was strenuous in all criminal cases where death had ensued, to demand as a pre-requisite, that an autopsic examination be made of the brain. You are all aware that the greatest work on medical jurisprudence which the present age has produced, is that by

Beck, and that the able author was a native of this State, and imbibed his love of the science from the lectures he heard delivered here by Professor Stringham. Other Americans have added to the honor of their country by labors of a like nature, as Dr. Ray, of Rhode Island.

Shall I trespass on your hour a few moments longer? Your education and your common sense have, I am convinced, already led you to the belief that the science you have chosen for your professional life, is the most important in its several relations that can engage the faculties of man. What little I have already uttered, will not lessen your confidence in that belief. But I only reiterate what has been said a thousand times by abler men; yet I utter what I most conscientiously think. Metaphysicians have given to Locke the highest plaudits for his philosophy of the human understanding; and astute men of other studies will tell you that Sydenham deserves equal renown for his luminous histories of epidemical diseases. If you go back to the earliest date of our science, and encounter Hippocrates, you will find that the talent of observation was possessed by the father of physic equally as clear, precise and logical as at the period when Lord Bacon published his Instauration; so that the wisdom of this age is perplexed whether to assign to Hippocrates or to Bacon the honor of the invention of the inductive system of philosophy. Either view of the subject may perhaps be right; yet after all, what is the inductive system but an inference from facts or certain phenomena which follow certain preceding facts or phenomena. The truth is, the whole is the science of observation, which has been called in requisition from the earliest period at which man became an observer. The perplexities of the schoolmen had paralyzed the march of real knowledge, and Bacon brought them back to their original studies. Our Franklin was, I think, an inductive philosopher, equal to any of his predecessors; his Leyden jar was a true example of inductive reasoning; and were our American Solomon heeded with greater deference, the happiness of mortals would be more widely diffused, a loftier state of social relationship obtained, and a more harmonious coöperation manifest itself for the benefit of humanity.

It would gratify me not a little to notice at this time some of the leading characteristics of those celebrated men, whose writings you study and whose labors you desire to follow. This present age is so prolific of events in science generally, and in our profession in particular, that it renders a fair estimate of the advances made in the art of healing during the past age extremely difficult to arrive at. When I was a student in 1807, my preceptor, Dr. Hosack, tied the femoral artery for an aneurism; he thought it a great achievement, and so it was at that day, and the faculty among us were of the same opinion. It was indeed the first time that operation had been seen in New York; but what has surgery done since with aneurisms; our friend Dr. Wood, your clinical guide, I conjecture, would now take up that artery, without the use of eyes, and perhaps without hands. What has Dr. Mott, the veteran of surgery in this place, our Ambrose Parè, as I have sometimes called him, done in that line of business; it would demand a long time for me to recount his exploits in even that limited

department of chirurgical skill, and how rich would be the pages of a discourse that set forth the surgical exploits of Mott, of Stevens and Post, of Van Buren and Wood, of Watson and Parker, of Detmold and Carnochan, of Kissam, and many others now on the stage of active life in our midst. When I was a student the system of chemistry taught here was the Lavoisierian; I have since made myself partially acquainted with the nomenclature of Davy and Brande, and the atomic theory of Higgins and Dalton. Contemplate the body of chemical philosophy now related to you by your experimental expositors, Dr. Draper, Dr. Doremus, and by Dr. Joy, Dr. St. John, and by Dr. Gibbs. When you shall have fairly set yourself at study, examine the cabinets of the materia medica, at your hands. The philosophy of organic life becomes the basis on which you are to found your pharmaceutical principles and your therapeutical means. Say not that you are not aided in the solution of intricacies of the materia medica, when the learned and venerable adept, Dr. Payne, treats of life and its diseases, with the ability of a master, whose views on the nervous influences have enrolled his name among the proud list of modern discoverers. With every means to attain to practical results, by personal observation at the bedside, by the elucidations of the stethoscope, by auscultation, by autopsy, and by the prelections of your Dr. Metcalfe, your Dr. Clarke, your Dr. Greene, you must be indeed indifferent students if you are not clothed with the mantle of knowledge and ready to assume the rights awarded to the skillful in curative power.

You have before you, gentlemen, the programme of the three several colleges now in operation in this city, for the purpose of imparting knowledge in the art of healing. Yes, you have three distinct colleges, each of peculiar claims, furnishing instructors in the respective courses which are ordinarily given by medical schools, and to add to our admiration of the plan, one harmonious trinity characterizes the union in the brotherhood of science. It becomes the less necessary for me to dwell further on the opportunities you possess to render yourselves both learned in theories and wise in practice. The distinguished professors of these schools are men of labor, and they will tell you that without labor you will accomplish nothing. They will tell you that reading and closet study are mighty aids in furtherance of your designs, but with equal frankness they will testify with one accord, that your foundation for all beneficent purposes you contemplate in after life must be grounded on observation—that clinical instruction is the staff upon which you are to lean. Fortunate for them, yet still more fortunate for you, they have at command those precious advantages which enables clinical instruction to fortify its behests, and this leads me to remark that had the luminous proofs afforded by practice only, won the attention of practitioners of former days more generally, the world might have been spared many of those theories which have obtruded themselves upon our attention, absorbed our time, rendered study less profitable, and burdened our faculties. Yet I impugn not the motives of the mighty men who have honored our art by their devotion to its interests while controlled by speculations often the creations of partial study, imperfect observa-

tion and too hasty generalization. I cherish the divine art of healing and its disciples with too ardent a zeal to venture aught against the purity of their intentions, and the disinterestedness of their views. I am ready to grant that they held in reverence as a rule of life, the Athenian motto, "the object of life is to do good," and instead of deprecating the labors of our predecessors, I would laud them to the very echo. Candor, moreover, will lead us to affirm that their services, after all, advanced medicine, and if while the fathers of the church were descanting on the proper food for angels, and were tolerated by the best of men in so doing, surely with a sweet benevolence we can overlook the crude conceptions of empiricism and the vagueness of its theories. For my own part, I am ready to concede merits, many and great, to the ancient masters of the art, and to the physic of the Arabians; and while I think that Cullen has treated them with undue prejudice, I am ready to allow even to the quack-salver, Paracelsus, the title of a philosopher. There is another view of this subject. Close examination has often shown that the founders of untenable theories have often been good prescribers. The speculations of the closet, however endeared to them, have not always led them astray at the bedside; while a false renown may have tended to the formation of of the one, the grave responsibilities of life and death have actuated the other.

Believing, as I do, that the successive theories of medicine have each in their turn advanced our science, I would recommend to you, when you enter upon the practice of your art, to seize some moments of your leisure which as junior members of the profession you are likely to have, to turn over for perusal the pages of such men as Boerhaave, Hoffman, Cullen, Rush, and our late fellow citizen who did so much to ennoble the art, the late Dr. Hosack. He labored hard for principles in medicine, and some of his doctrines, particularly those on pestilence, though at one time sturdily rejected by nearly all his brother practitioners, have recently met with a reception which coincides with the declaration of the poet:

> "Truth, crush'd to earth, will rise again:
> The eternal years of God are hers;
> But Error, wounded, writhes with pain,
> And dies amid her worshippers."

There are no saints in the calendar that I venerate more than I do Haller and Boerhaave, and when at Amsterdam I had visited the Anatomical Theatre of Ruysch, I repaired to Leyden, and bent to kiss the old marble effigies of Herman Boerhaave.

Justice to myself, as well as to you, demands that I should add, in this place, that in speaking of the theorists in our profession, the founders of systems, if you please so to characterize them, I do not wish to include a peculiar clan of modern speculators, who have risen up in these latter days with claims that have secured a short-lived notoriety, solely on account of their wild doctrines and their captivating conceits, obtruded upon the careless and the ignorant with an

effrontery which might create the crimson blush on the cheek of Mesmer himself. They constitute an order not definable or capable of arrangement in any nomenclature. Possessing no centre or fixed point, their gyrations are incomprehensible to the observer, and indefinable by any rules. You will at once anticipate what I purpose saying. This heterogeneous compound includes the table-turners, the spiritualists, with clairvoyance, the disciples of animal magnetism, and the manœuverers of infinitesimal notions, and the *similia similibus curantur*. When you shall have become well acquainted with the philosophical history of your profession, you will be able conscientiously, because knowingly, to affirm that the temple of medical science has not as yet been enriched with one saving principle from the abettors of these sophistries; that what they proffer and deem valuable had long been known; that what possesses claims to novelty is untenable and absurd. And, indeed, this decision seems supported by a remarkable concurrence in the proceedings of all colleges restricted to medical science, for I believe throughout the land there is not selected as a teacher in a regular medical school, one individual, the recognized proselyte to the dogmas of Hahnemann. In Edinburgh there is, indeed, a chair occupied by an advocate of his principles. I infer, however, that its services for practical results in the curative art are very limited, judging from the expositions given to the world by that astute reasoner, Dr. Simpson, the able professor of obstetrics in the University of that metropolis. Be this as it may, my mature advice to you is, to let Hahnemann alone. I already see a decay in the number of the supporters of his doctrines. The golden calves who have been tarantulated by his mysticism, infest not the area of practical medicine as formerly; and the narcotized system, while it thins the ranks of its advocates, lessens in its survivors the oracular outcries of its merits, which once assailed us in such stentorian accents.

I could proceed for hours on the subject of your profession, its vastness, its responsibilities, the great good it daily achieves, the sufferings it mitigates and removes, the learning and science of its disciples, the services they have rendered the arts, in common life and in the useful and ornamental departments of mechanical skill, in domestic economy, etc. In a discourse delivered some time ago before the Academy of Medicine, I aimed to augment the stock of knowledge in relation to the men and their transactions in this country, and Dr. Cock, the present President of the College of Physicians and Surgeons, has, in his inaugural address, added further interesting information on New York matters. But it is requisite, before I close, to say, however much New York possesses profitable to your intentions, that the Union at large is gradually enriching itself with eminent medical and surgical men. Boston had her Warren; she still boasts her Jackson and Bigelow. Philadelphia has long held a mighty influence by her professors and her schools, and always points out her Rush, her Wistar, and her Chapman. Baltimore has long been the seat of medical learning, and of a university whose sons, like N. R. Smith, have increased her fame. Charleston has her Holbrook in natural history, and proudly announces

her Dickson as a medical classic of rare judgment and sound doctrines. The exalted science also has great schools in St. Louis and in New Orleans, while the American Medical Association annually convenes a congress of talent of such laborers in the cause of Hippocratic science as Gross, Eve, Geddings, Stone, Fenner, Nott, Barton, etc., all of whom demonstrate that the tree of science in medical philosophy has taken deep root even in remote places of this wide-spread Union, and that Texas has already become a contributor to the same end by the investigations of that erudite man, Dr. Noel Smith.

I think I have already intimated that the medical literature of New York has been of such an order of merit as to command the esteem of foreign writers among different European nations. The New York *Medical Repository*, the first journal appropriated to medical science in this country, appeared so early as in 1797, by Drs. Mitchill, Miller and Smith. The nature of epidemical diseases has been expounded by a formidable corps of writers, among whom are Richard Bayley, David Hosack, Joseph M. Smith, and Peter Townsend, and monographs abound without limitation. If so be, that from peculiar circumstances you desire the philosophy of the times on the prolific subject of Hygiene, we can give you assurances that the press here has not been idle where Dr. Griscom has had an interposing influence.

Time admonishes me to bring these cursory remarks to a close, else I would detail at some length the history of our Bloomingdale Asylum for the treatment of the insane, a great institution, founded so early as in 1817, and in which the moral treatment of lunacy is carried out with gratifying success; and the Women's Hospital, recently organized for the special accommodation of cases of abnormal conditions, arising from accidents associated with the parturient state, or following the complexities of labor and instrumental delivery. This last-named institution, is as yet but in its infancy, but well-grounded hopes are entertained by its patrons, and the public generally, that the lapse of a little time will secure an ample organization, commensurate with the importance of the charity and the marvellous success which has thus far crowned its practice. The formidable nature of the infirmities treated in this hospital by its Surgeon-in-Chief, Dr. Sims, and the success which has followed, with perhaps not an exception, must command the approbation of the most skillful in obstetrical science, and call forth public countenance and pecuniary means from our constituted municipal authorities. The opportunities which I have enjoyed of witnessing the operative talents of that distinguished man, Dr. Sims, in the novel and intricate cases which find relief in the new temple of science, has led me, in common with other observers, to feel the warmest desire that its perpetuity may be secured.

Are you not, gentlemen, fully satisfied that in this city the means of knowledge are spread before you? that such an institution as our City Hospital, with its ripened glories of nearly three generations, is a school in which you may safely enter to hive wisdom? and do you not see from the walls of this theatre, where we are now convened, that the ample Bellevue Hospital before you contains materials that cannot fail

to give you the qualifications of the accomplished physician, the dexterous accoucheur, and the confident and practical surgeon? Each day's experience in your walks through its ample and commodious halls and wards, will increase your stock of knowledge, awaken your admiration in the powers of healing, and magnify the claims which your respective clinical teachers seek to make on your confidence and regard. There is a good deal of honest truth in the old Horatian proverb:

Fortes creantur fortibus.

The student, whatever his native powers, is largely dependent on the talents of his teacher: the example of the master is of mighty influence in swaying the destinies of the pupil. We have had here, from time to time, quite a crop of sound Dutch doctors, made by Boerhaave; Cullen sent forth a prolific tribe of sound medical men throughout these colonies; the South is still filled by the disciples of Rush; and a large corps of safe physicians is scattered everywhere, instructed by Hosack. Cheselden at Chelsea, sent many a sound surgeon to London. Hunter equipped Wright Post, and John Abernethy and Astley Cooper are recognized as the successful teachers of Valentine Mott, whose zeal was enkindled with increased powers by the lofty examples of those master-minds, so that, if we heed the public verdict, the pupil has excelled his glorious instructors. I have sometimes conjectured that this Dr. Mott of ours was their crowning work; I am certain you cannot possess an abler consulting surgeon in your most embarrassing cases. Let a like aim be yours. Every department of your calling is provided with able guides and willing teachers. Your clinical instruction in practice with all its complexities, will be directed by such men as Prof. Clark and Prof. Metcalfe; your obstetrics have for elucidation, with clinical and practical remarks, Elliot, Taylor and Barker. Your surgery claims the clinical judgment and ample experience of one long eminent in chirurgical operations, Dr. James R. Wood, whom you know to be the efficient agent in organizing this clinical school.

In glancing around me, I see within these walls some of those city fathers who direct our public councils, and control our municipal affairs. They are not an idle body in the work of improvement: the advances of this city in the decorative arts, in medical police, in hygiene, and in the multiplication of institutions purposely erected for humanity, for science and general knowledge, have elicited the praises of the denizen and the stranger. To them I feel that acknowledgments are due for these blessings, and in an especial manner for the lofty pile of architectural display and internal convenience which Bellevue Hospital offers to our eyes. Our city fathers effected a mighty issue when they built the Croton aqueduct; the ample and elegant institution before us is worthy of such masters in the arts of design; let the enlightened Governor * of the Alms House department, who honors us with his presence, tell his associate members of the Board, that the afflicted inmates of the Institution feel daily the blessing

* Governor Smith.

bestowed by their liberal policy, while as brethren engaged in the highest duties of life, we entertain due reverence for their individual character, and to their noble works, so scriptural in beneficence, so cheering to scientific progress.

Gentlemen, I was once young—the case I think is now otherwise. The opportunities I enjoyed for medical acquisition with my able preceptor, Hosack, were very many, but not equal to those afforded at the present day. Fifty years have produced vast advances. But I have not been idle : my march is onward. Everything that enhances the medical art yields me additional satisfaction. I love to see the ripe scholar, and the accomplished prescriber, and the skillful surgeon. Let me urge you to seize every chance so abundantly at hand for practical improvement; fortify yourselves with conscious knowledge; so that your lives may prove, in the arduous career of your high duties, a solace to yourselves, and a blessing to the land. I will add no more, but my best wishes for your health, your happiness, and your prosperity. By faithful devotion, your livelihood is secured ; if more fortunate still, your means can readily find objects to gratify your love of doing good ; at all times remember the poor.

ART. VIII.—*Report of the Proceedings of Medical Societies and of Hospital Practice.*

NEW YORK ACADEMY OF MEDICINE.

REGULAR MEETING, JAN. 6, 1858, DR. BATCHELDER, *President.*

PROLAPSE OF THE FUNIS.

AN essay upon Prolapse of the Funis was read by DR. T. GAILLARD THOMAS, Physician to the Demilt Dispensary, N. Y.; the chief points of which we give in the following *résumé.*

After touching slightly upon the literature of the subject, and the views entertained by the old writers on obstetrics concerning it, he entered into an examination of its frequency. According to the statistics adduced, it occurs about as frequently as transverse presentation, or about once in 250 cases. Monsieur Schuré, of Strasbourg, states it as occurring once in 265 cases, and Michælas as once in 287. The mortality attending the accident is, however, far greater than that of transverse presentation ; thus, in 355 cases mentioned by Dr. Churchill, 220 children were lost ; in 37 mentioned by Drs. McClintock and Hardy, 25 were lost ; and in 1,822 labors reported by Dr. Ramsbotham, as having given birth to still-born, 128 of the deaths were due to prolapse of the cord.

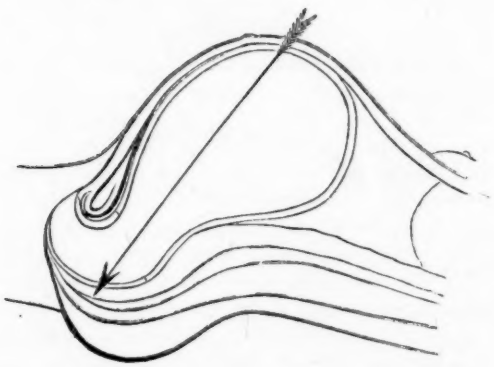
The subject of treatment was then entered upon, and all the means now in use were passed in review, as returning the cord by the hand, or porte cordon, and keeping it up by means of bits of sponge attached to it, or by inclosing it in a pouch of leather or soft linen, etc., etc.

Next, the employment of version and the forceps was examined into, and, lastly, the chances of success attending the practice of placing

the prolapsed organ in some part of the pelvis where it would be free from pressure during the delivery.

The author then laid before the Academy a plan of treatment which he had proposed in a course of lectures on obstetrics, delivered in the University Medical College of this city two years ago, and which he had since taught, but had waited for clinical evidence before bringing before the profession. The causes of the great persistence of this accident, said he (whatever may have originally produced it), may be stated as these : 1st, the slippery nature of the funis ; and 2d, the inclined direction of the uterine axis, which being a line running from the umbilicus, or a little above it, to the coccyx, favors very much the tendency of the slippery part to roll outwards. These conditions he had thought might not only be overcome, but might themselves be rendered serviceable in effecting reduction, by inverting the uterine axis by placing the woman on her hands and knees, in the posture employed by surgeons in operating on the uterus and vagina. The accompanying diagrams were employed in explanation. He had now tried this method in two cases, and reported as follows :

The first was a robust Irish woman, a multipara, who was sitting by her bed when the waters broke, and brought down a loop of the cord.



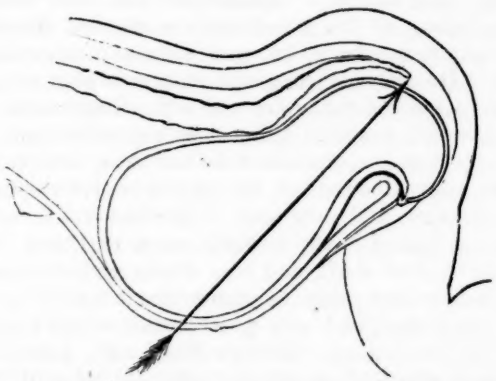
It had been returned to the uterus repeatedly by the physician in attendance, and the porte cordon recommended by Dr. Ramsbotham was used to retain it. At each successive pain, however, it again prolapsed, and when he saw the case it was suffering from pressure by the descending head. He repeated the attempts which had been made by returning the cord, but, like them, his were unavailing. Placing the woman on the knees, with her face and chest resting upon the bed, he now proceeded to return the cord, when he discovered that without his aid it had retreated—and the labor proceeded without difficulty—a living child being soon born.

To the second case he was called before the waters had broken, and in the unruptured bag he detected the cord in large amount. As the os was fully dilated he ruptured the bag, and instantly the cord

descended, and appeared to fill the vagina. Pushing it up beyond the head in an interval, he now waited to see whether it could be retained there during the next pain, but a large loop was at once forced down, and this occurred two or three times as the result of this attempt. The woman was now placed in position, and although the cord did not, as in the first case, reduce itself, no part of it once pushed up returned, and the labor was safely concluded.

In both these cases the woman was allowed to choose her position after the head had fully descended, and occupied the pelvic cavity.

The author, in concluding, expressed his regrets, that the plan proposed should not have been more fully supported by clinical facts, and stated as his reasons for bringing it forward in its present condition, the conviction which he felt that the simplicity of the method would at once recommend it for trial, and his desire cordially to invite the pro-



fession to test it, and give it its proper stand, whether of credit or of discredit, among the means at present at our command in treating this class of cases.

The rules of treatment pointed out were these :

1st. If the cord is detected before the waters have broken, let no manual assistance be offered, but place the woman at once in position, and trust to this for its return to the uterus.

2d. Should the waters have flowed away, and left the cord below the head, place the woman in position, and push it up with the hand if practicable, or with a porte cordon, consisting of a gum elastic catheter, with a tape passed through it, if not so—

3d. Let no manipulations be commenced until the woman be placed in position.

BELLEVUE HOSPITAL.

Report of the Second Surgical Division; (Dr. Ch. S. D. Smith, Visiting Surgeon) by Dr. F. A. Burrall, House Surgeon.

Two hundred and fifty-five cases of disease were treated in this divi-

sion during the months above named, and among them were the following fractures and cases of interest:

1 compound fracture of skull; 1 lower jaw; 1 clavicle; 2 arm (1 compound); 2 fore-arm; 3 ribs; 1 of acetabulum with luxation of thigh; 5 shaft of femur; 2 of leg (1 compound); 1 luxation of humerus; 1 luxation of clavicle; 1 radius at elbow-joint, forward; 3 cases of stricture of urethra, 2 with urinary abscess; a large hydrocele of two years standing; carious abscess of tibia; disease of the joints, rheumatic and strumous; primary and secondary syphilis; diseases of the eye and skin, and cases of minor surgery.

Fracture of lip of acetabulum.—James Hagerty, 28, Ireland, laborer, admitted October 20th. This patient was struck by a railroad driver weighing over a ton, and six feet high, the wheel grazing the right side of his back, and striking upon the upper and posterior portion of the hip-joint. The violence of the blow was somewhat broken by the falling of the wheel upon a wooden horse. He was driven forwards upon all fours, but rose without assistance, and could rotate his limb. He did not complain of severe pain upon admission, and could bear some weight upon the leg. There was one a half inch shortening, which could be reduced by extension, and on a careful examination, over the acetabulum a hollow was detected, while the trochanter was approximated to the antero-superior spinous process. The crepitus was bony, and very loud. The foot was inverted.

The patient was placed in the straight apparatus, and treated as for fracturing of the femoral shaft, and was discharged on Dec. 24, by his own request, being then able to move about easily upon crutches. There was no shortening, and very good motion of the hip-joint.

Injury of neck and head.—George Reed, 28, Irish, married, of good habits, was admitted to the hospital, October 12th. On the morning of September 13th, he fell backwards down a flight of fifteen stairs, and was taken up insensible. There was no paralysis, and he suffered only from a pain in attempting to raise his head, which he found impossible. Three wet cups were applied to the nape of the neck, followed by a blister, and a purgative of senna, and mag. sulph. was also given. He was able to return to his work on the second day, but on the day before his admittance to the hospital, he found it impossible, after lying down, to raise his head again.

There was pain and stiffness in the course of the left sterno-mastoid muscle, and a deep-seated pain over the lower portion of the occipital bone, most marked on the left side. The patient, in rising from his bed turns his face towards the pillow, and rises slowly, supporting his head upon the palm of his hand.

Treatment, consisted in a moderately antiphlogistic course. Cups and blisters to the nape of the neck, which relieved the stiffness of the neck, while severe pain still remained. This was relieved temporarily by a seton, but returned as severe as before. Quinine was administered, as the pain seemed of an intermittent character, but with no better success, nor was it alleviated by doses of racemosa acteæ.

Nov. 1st.—Patient complains of difficulty in opening his mouth, and

swallowing, while sitting up. There is rigidity of the muscles on the anterior part of the neck. He cannot take his meals in the sitting posture, but finds no difficulty in mastication while lying down. The wine of the citrate of iron was given in such a quantity that the patient might take four grains *ter in die*. From this time he commenced to improve, and could move the muscles of the mouth and jaw with facility, but the improvement was very slow, and on the 9th November he was discharged by request, with considerable pain still remaining in the back of his head while in the erect posture.

Traumatic stricture of urethra—Perineal section.—Patrick Caniff, Irish, 52, laborer, admitted Oct. 9th.—This was a case of stricture of the urethra, following a fall astride a scantling. Immediately after the accident, blood passed per urethram, and there were some inflammatory symptoms, which subsided in four weeks. There was no solution of continuity of the integuments. Patient has also an inguinal hernia, on the left side, which he first noticed about a month after the accident. It is now about as large as the closed fist, and easily reducible. Since the accident, the patient has been troubled with pain and scalding during micturition. There is also at present a turbidity of urine at the beginning and end of micturition. On admittance, the the urine was passed guttatim, and with great difficulty.

Chloroform was administered, and ineffectual attempts made to pass an instrument. Suppositories of opium were introduced into the rectum, and mild laxatives administered, which facilitated the passage of the urine to some degree.

Oct. 17th.—Ether was administered, and perineal section performed by Dr. Smith. The stricture was over an inch in length, nearly obliterating the membranous portion of the urethra. A catheter was introduced into the bladder, and the wound left to heal by granulation.

The bladder was occasionally syringed out with warm water, the wound healed kindly, the urine became natural, and on December 26th the patient was discharged cured, the urethra, at that date, readily admitting a No. 12 catheter.

Stricture of urethra following gonorrhea, with extravasation of urine.—James Vickerey, 24, England, painter, single, admitted October 22d. Eight years ago patient was attacked with rheumatism and gonorrhea simultaneously. The clap was of five months' duration, was treated constitutionally, and by injections, and for a month after its cure the patient suffered occasionally from scalding during micturition. He says that he "caught cold" about five years since, during the night, and was unable to pass his water the next morning, except guttatim, and with great pain. Since that time he has been constantly growing worse, and is annoyed with a frequent desire to pass water.

The patient's constitution, on admission, was somewhat enfeebled, he was weak and pale. After some trial, a pointed elastic bougie was introduced for about a quarter of an inch into the stricture which commences in the bulbous portion of the urethra. Eight leeches were ordered to the perineum, and warm baths, with opium suppositories, at bedtime, were also ordered.

Oct. 27th.—At 8 P. M., while patient was at stool, he was seized with faintness, fell, and was assisted to bed. Soon after he had vomiting, followed by a chill. On the morning of the 28th, he was quite feeble, with a quick and small pulse. Hyd. submuriat. five grains, was ordered, to be followed by ol. ricini. At twelve, noon, patient went to the water-closet, and immediately afterwards was seized with a severe chill and vomiting. In three or four hours he went into collapse. Pulse was almost imperceptible, his face and lips blue and cold. He rallied after the administration of restoratives. In the evening his pulse was 150, small and hard; there was pain in the abdomen on pressure, the knees were drawn up, and there was constant vomiting of green matter. Small doses of quinine and morphia were ordered in pill, and were retained upon the stomach.

11 P. M.—Extremities cold; pulse not improved; patient seems moribund. Mustard poultices were applied to feet.

Oct. 29th.—Pulse rather stronger; abdomen still tender on pressure; toes of left foot quite black; vomiting constant. Ordered a pill of quin. sulph. two grains, pulv. opii. one grain, to be given every hour. At night patient slowly regains warmth; vomiting less severe; great tenderness over the kidneys, the quinine was omitted in the pill, which was still continued.

Oct. 30th.—Vomiting ceased about noon; takes pulv. opii half grain, every hour; stimulants continued.

Oct. 31st.—Reaction has become fully established. Patient complains of great pain all over his body. During the last forty-eight hours he has taken thirty grains of opium.

Nov. 1st.—Contrary to orders, patient got out of bed, and went to the water-closet. Half an hour later he was attacked with a severe chill, which lasted three-quarters of an hour, but was not followed by bad consequences; quin. sulph. one grain, was ordered *ter in die.*

Nov. 3d, 10 P. M.—Patient complains of pain in left testis, and left side of perineum; he says that while straining to make water at 7 P.M., he felt something "give way," and immediately began to suffer severe pain. An examination of the left side of the scrotum and perineum shows a hard swelling, apparently extending upwards along the ramus of the ischium. Patient was placed under chloroform, and after an hour's steady perseverance a No. 3 silver catheter was passed into the bladder. The perineum was incised at median line, and an opening made through the fascia to the urethra.

Nov. 4th.—Patient feels much better; pulse improved; skin soft and pleasant.

There was considerable sloughing in the region of the incision, and other incisions were made to facilitate its release. Poultices were applied to the scrotum and perineum, and stimulants were given freely. On the 9th November a violent diarrhœa set in, which yielded to a mixture of catechu and tannin, with pulv. opii. one grain, every three hours. His pulse, however, was 120, quick and small.

Nov. 13th.—Patient is improving slowly; discharge from scrotum and perineum is beginning to look more healthy.

From this date until Nov. 26th, the patient suffered much from irri-

tability of the bladder. The No. 3 catheter was removed, and a No. 9 substituted, but at last it became necessary to remove the instrument and draw off his water several times during the day. The incisions into the scrotum closed kindly, but the opening into the perineum continued to discharge. A large abscess formed suddenly just below hip joint on the left side, which was opened, and several ounces of bloody pus were discharged. Stimulants and tonics were given *pro re natâ.*

December 10th.—A large abscess has formed under the glutei muscles of the left side, another under the adductor muscles of the right, and the third at the junction of the penis and scrotum. The one under the glutei was opened by a puncture which reached the ilium, and about six ounces of a very tenacious pus were evacuated. A compress was applied over the cavity. About an ounce of thin ichorous pus was also evacuated from the abscess of the scrotum. Subsequently, the abscess under the adductors was opened by a free incision, and another at the elbow, above the tendon of the biceps, was similarly evacuated. The formation of these abscesses was generally preceded by a chill. The patient's appetite is not very good; he eats an egg, or bit of chicken occasionally, and a little beef tea. He relishes porter, however, of which he takes three bottles daily, in addition to four ounces of brandy and four of port wine.

December 22d.—An abscess at junction of penis and scrotum anteriorly was opened, evacuating ℥ss. of thick pus.

January 18th.—At the present date the patient's general health is much improved. He has, however, a urinary fistula, opening externally, near the commencement of the scrotum.

January 31st.—Patient sits up and is convalescent.

Case of hydrocele and hematocele.—Anthony Ryan, Irish, aged 38, porter, married, admitted October 19th, has always been healthy, with no hereditary predisposition traceable, although of scrofulous appearance.

Two years ago left side of the scrotum began to swell, and was painful. There was an increase of these symptoms for six months, since when there has been no pain except in wet weather. About a year since the right side of scrotum began to swell also, following a similar course to the left. The tumor measures, at present,

Greatest horizontal circumference	23½ inches.
Half circumference of left side	15 "
" " of right side	8½ "
Perpendicular circumference of left side	21 "
" " of right side	17 "

The left side is much more tense than the right, and the penis is nearly obliterated. Fluctuation is distinct on both sides. The right side is translucent, the left opaque.

Treatment.—October 28th.—Both sides were punctured by Dr. Smith; forty-five ounces of bloody serum were drawn from the left side, and twenty-eight ounces of clear serum from the right; about an ounce of a mixture of equal parts of tr. iodini and water were

thrown into the sac of the right side; the left sac was suffered to refill; patient suffered some pain.

November 10th.—The right sac is rapidly contracting, that of the left nearly refilled. An incision was made by Dr. Smith into the left sac, and a triangular piece of the tunica vaginalis excised; forty-four ounces of bloody serum, and a number of fibrinous clots were evacuated; the tunica vaginalis was very much thickened, and had lost its shining appearance; the cavity was syringed out with warm water, and dry lint introduced.

There were, as in the previous occasion, no bad symptoms; suppuration took place, and was followed by a steady decrease in the size of the tumor. On the 22d of December he was discharged cured, at which date suppuration had ceased, and the scrotum was reduced to about one third of its original dimensions. There was still thickening and hardness of the tunica vaginalis, and a redundancy of scrotum.

Traumatic abscesses about knee-joint, simulating synovitis.—Francis Clarke, Ireland, laborer, of scrofulous appearance, deaf and dumb from birth, admitted October 10th, 1857, said to be eighteen years of age, but appears much younger; genital organs quite imperfectly developed.

About the last of September, his sister struck him with a fork, just below the tubercle of right tibia; a day or two after it was noticed that he walked lame, but he would submit to no treatment.

When admitted, the knee was very much swollen, from two inches above patella to the same distance below tubercle of tibia. After a warm bath, six leeches were applied about the swelling, followed by warm fomentations. Had no appetite, but slept quite well during the night.

October 11th.—In morning there was a disposition in the swelling to separate into two parts; one below the joint, and the other on inside of patella. Eight leeches, four on each side of patella. In evening, swelling much diminished; tendency to separate more marked; not much tenderness on pressure; appetite improved; pulse 120, somewhat small and irritable; warm fomentations continued; bowels kept soluble with a solution of magnes. sulph.

October 12th—Morning.—Pulse 100, a little hard; slept well last night; pain about joint increased, much aggravated by pressure; swelling below knee distinctly fluctuating; has no connection with joint, or swelling on inside of patella; no perceptible fluctuation under quadriceps extensor tendon. 1 P.M.—Dr. Smith made an opening into lower swelling with sharp pointed bistoury, which discharged two ounces of pus; poultice. 5 P.M.—Pain much diminished; appetite good; pulse 132, soft and compressible; quin. sulph. and opium in small doses.

October 13th—Morning.—General appearance better; slept well during night; pulse 92, small and weak; skin cool; joint sensitive; fluctuation at inner side of patella quite distinct. 8 P.M.—Poultice to knee.

October 15th.—Pulse still weak; appetite good; joint not quite so sensitive; fluctuation very distinct; strong pressure being made over

swelling at patella, forced an opening through the cellular septum which divided abscesses, and pus was freely discharged through the original incision. 5 P.M.—Patient has more fever than for two or three evenings previous; a bandage and compress over abscess; anodynes.

October 17th.—Abscess nearly evacuated. Joint strapped.

October 21st.—Straps removed. Patient allowed to sit up.

October 24th.—Some effusion in joint, which was again strapped and bandaged, and patient allowed to walk about.

October 26th.—Discharged cured.

Traumatic stricture of urethra—Urinary abscess.—Hugh O. Reilly, 27, Ireland, married, laborer, admitted November 23d.—This patient fell astride a scantling five years since, and struck upon the perineum, a little to the left of the urethra. There was some hemorrhage from the urethra. The physician in attendance had ordered a purge, and applied ice to the privates, and on the next day a catheter was passed, after which the patient had no difficulty in urinating. On the tenth day after the accident, he returned to his work feeling quite well. A few days later he was troubled with ardor urinæ, and noticed a small tumor at the left side of the scrotum. Difficulty of micturition increased, with growth of tumor. An instrument was passed, a few days subsequently, which seemed to burst the tumor from within, and allowed a small quantity of pus to escape per urethram, after which his urine was passed naturally for several days. From that time until four or five weeks since, the same set of symptoms have recurred, and have been relieved by the passage of the catheter.

He was at last obliged to give up work, and take to bed, with the swelling and dysuria much increased.

November 28.—States that last night he passed a great deal of water, and was very thirsty. At present he passes his water guttatim, and there is much swelling and bagginess about the perineum.

Treatment.—After careful effort of two and a half hours, during which the patient was under the influence of chloroform, a No. 2 sound was passed, and followed immediately by a catheter of the same size. About three pints of dark-colored urine were evacuated. An incision was then made in the median line, and a considerable amount of unhealthy pus escaped. Symptoms of irritation were treated with anodynes and stimulants, the catheter was worn in the bladder until it was necessary to remove it, and draw off the patient's water several times daily. There was great inflammatory œdema of the scrotum and prepuce, which was treated by free, deep incisions, and the parts soon returned to their usual size.

December 27.—Introduction of the catheter discontinued. Patient doing well.

January 9th.—Patient discharged.

Strumous abscess of tibia.—Edward Smith, born in New York, 15 years of age, was admitted to Bellevue, November 11th, 1857.

On the 10th of July last, he spent nearly the whole day in very cold water, without clothing, in search of oysters. During the morning,

while in the water, he felt very cold, but continued his employment until late in the afternoon, when, in consequence of increasing chilliness, he was obliged to leave for home. When he arrived, he had a smart chill, and went to bed sick.

The next morning he was attacked with a very severe pain in the left ankle, and vomited somewhat. A physician was called, who prescribed nothing but the application of ice to the painful ankle. The pain increased; the neighboring parts began to swell and be painful. For a week he suffered greatly, and the whole leg became very much swollen. His mother applied leeches, which gave him relief. At the end of two weeks the same physician was sent for, who, detecting fluctuation, lanced the swelling, and a very large amount of offensive pus was discharged. This also relieved him very much. During the following month, other abscesses formed and were opened, leaving fistulous tracts, from which small pieces of bone were from time to time discharged.

When admitted to the hospital, his general health was not seriously impaired. He had a good appetite, and slept tolerably well.

The lower third of tibia was greatly enlarged to twice its normal dimensions, and very painful when handled or touched. The integuments over the bone were red, inflamed, and undermined. Five or six openings were observed, which led, by tortuous tracts, deep into the bone, all directed down towards the internal malleolus. The probe revealed dead bone, and also the sides of these sinuses rough and grating, but no sequestra or loose bone discovered. The disease did not involve the joint, although very near it. The discharge from these openings was continual, and of a purulent character exceedingly offensive.

Saturday, November 28th.—Dr. Smith performed an operation, as for ordinary necrosis. The patient being under ether, a crucial incision was made, exposing the whole of diseased tibia. A trephine, applied at each extremity of the wound, and the portion between chiselled out, and all the sinuses laid completely open. The bone was found soft and carious. The cavity was loosely filled with lint, and left to suppurate.

December 30.—The wound is filling up with healthy granulation, and the patient, free from suffering, is rapidly convalescing.

Two cases of Traumatic Tetanus (DR. L. A. SAYRE, Visiting Surgeon), reported by F. A. BURRALL, M. D., House Surgeon.

Case 1.—Catherine Beirn, 23, servant, German, admitted Dec. 4th. The previous history, as learned from an acquaintance, was that three weeks ago she received a blow from a brick over the left eyebrow which rendered her senseless. She recovered from the immediate effects of the accident sufficiently to go out the third day after its occurrence.

About the sixth day her lower jaw began to grow rigid, and the spasm increased to such a degree that a knife blade could with difficulty be introduced into the mouth. On the eighth day she was trephined,

and three or four pieces of bone, in all about as large as a ten cent piece, were removed. The frontal sinus was entered, and the external wound left open.

On admission, the patient was somewhat anxious, had a pulse of 96, a cool, dry skin, and symmetrical pupils of the normal size. Her intellect was not affected. The external wound had partially scabbed over, and gave exit to a slight discharge. The muscles of the lower jaw were somewhat relaxed, while those of deglutition and respiration were mainly involved. The patient complained of thirst, and made constant efforts to dislodge a yellow tenacious mucus which seemed to come from the vicinity of the larnyx. It would constantly appear between her lips, and she would tear it away with her fingers. Every effort to swallow brought on a violent spasm of the sterno-cl. mastoidei, the platysmata, and to a lesser degree the muscles of deglutition. There was no pain in the vicinity of the ensiform cartilage, nor did she give any evidence of acute suffering. Chloroform was administered with no marked relief of the spasm, and discontinued as the patient seemed very averse to its use.

Dec. 5th.—Condition about the same. Cannot drink beef tea, or brandy, but has a great desire for water. Ordered sol. morphiæ sulph. (gr. j.-℥j.) in tablespoonful doses after each severe spasm also enemata of beef tea, and sol. quiniæ sulph. About ℥ij of tr. assafœtidæ were also ordered to be thrown into the rectum. Pupils are contracted.

Dec. 6th.—Pulse 112 in the morning. Patient more comfortable. In the afternoon symptoms of collapse occurred. The respiration was 77, sighing, pulse 140. Stimulants were administered, and patient rallied slowly. During the night of the same day, she perspired freely, and her bowels moved twice.

At about 9.30 A.M., patient complained of dimness of vision, and desire to sleep, against which she struggled. She attributed the drowsiness to the morphia, although her intellect was still perfectly clear, and there were no comatose symptoms. Her pulse was irregular as well as her respiration, and she suddenly became pale, and pulseless at the wrist. Her eyeballs were rolled upwards, and her breathing became very irregular, with an occasional deep inspiration. She sank back in bed apparently lifeless. The ready method was used, brandy was thrown into the rectum, and the patient rallied. She expressed a wish to go to the water-closet, and walked there and back with slight assistance.

At about 9.45 A.M., another collapse occurred, more severe than the first, and in spite of the assistance of the galvanic battery, artificial inspiration, and the ready method, there was no reaction.

Examination 48 *hours after death.*—Rigor mortis quite well marked. Body not at all decomposed. Calvarium removed. There was great congestion of the cerebral sinuses, and the superficial arteries were unusually developed. This was marked both at the superior portion and base of the brain. There was rather less fluid in the ventricles than is usual. Small red patches were scattered over the brain just beneath the arachnoid.

An examination of the external wound showed that the trephine had entered the frontal sinus, and was just internal to the supra orbital notch by its lower curve. A small fragment of bone, about four lines square, was found in the wound. It was impossible to prosecute the examination as far as could have been wished, and the body was consequently not opened.

Case 2.—*Traumatic tetanus—Amputation—Trial of woorari poison—Death.*—Owen Daly, Irish, laborer, admitted Dec. 30th. Eleven days before admission, while the patient was ascending a ladder it fell, and the palmar surface of the first phalanx, and ball of the right thumb, were torn open by a nail which caused a severe lacerated wound. Inflammation of the adjacent parts was followed by suppuration, and a week since an incision was made on the dorsal aspect of the thumb, which liberated some pus. Four days since he felt a stiffness in the muscles at the back of the neck, and this has been increasing up to the date of admission. The patient is strong, and apparently of good constitution, his countenance is anxious, his intellect clear ; he has a pulse of 80, natural in fullness. Pupils act well. Bowels have not moved for two days. The spasm involves the muscles of the jaws, neck, thorax, and abdomen. It is tonic with occasional exacerbations. There is some opisthotonos and a severe pain near the ensiform cartilage. He has suffered somewhat from a cough since the commencement of the disease.

The external wound is not healed. It has an unhealthy look, and is covered with a purulent discharge. It was decided to convert the lacerated into an incised wound, and chloroform was administered ; but, as the anæsthetic produced a violent paroxysm, and apparent cerebral congestion, it was discontinued. After having ordered an enema of soap suds and turpentine, it was finally decided to cut off the nervous communication between the wound and the spinal cord. Chloroform was again used with similar symptoms, and an incision was made completely around the thumb, just below the wound. It was then discovered that the joint between the first and second phalanges was opened into, and the thumb was therefore removed at the metacarpo-phalangial articulation. The wound was drawn together with sutures, and dressed with cold water. Anodynes, brandy, and beef tea were ordered in liberal doses.

Dec. 31st 9.30, A.M.—Patient has been dozing since 12, P.M. and is still drowsy. Pulse varies from 80 to 100, weak and rather soft. Bowels and bladder act naturally, but difficulty of deglutition is increased. A blister was ordered to the spine, and a tablespoonful of a 20 gr. solution of quin. sulph. every half hour, with an equal amount of brandy. Beef tea to be given ad libitum. At 12, A.M., a large teaspoonful of tr. cannabis indicæ was ordered to be given every half hour. Patient is steadily growing worse, has had five severe paroxysms, and the rigidity begins to affect his legs. He says his tongue is also affected. The extremities are cold, and the face livid ; respiration abdominal, and very humid. Arms not affected by the spasm.

8 P.M.—Two injections were given, but as a severe paroxysm was induced each time, he refused their re-administration, and

says he will endeavor to swallow his medicine. During the day he has continued drowsy, but no perceptible effect seems to have been produced by his medicine.

It was considered that this was fit case for the administration of the woorari poison, from its well known power of bringing on muscular relaxation ; and a watery solution of an extract of woorari (gr. 4–aq. ℥i.) was proposed. Ten minims ($\frac{1}{12}$ gr.) were poured upon a bit of lint which was applied to the wound. Respiration being 28, and the pulse 112. The patient was informed of the nature of the proposed experiment. In five minutes the pulse fell to 104, then a slight spasm occurring, it ran up again.

11.10.—Patient drowsy ; respiration, 26, pulse, 108 ; twitching observed in the wounded hand. 11.15, respiration 32, humid and jerking, pulse 104. 11.20, mouth was opened twice so as to admit introduction of the finger. 11.21, gr. $\frac{1}{16}$ in solution applied. 11.23, swallowed some warm brandy, producing spasm. 11.25, mouth opened very widely. 11.40, gr. $\frac{1}{8}$ in solution applied upon the incision on the back of the hand, the scab having been bared (much loss by spilling). 11.45, drinking some water nearly produced a spasm ; respiration 28, pulse 106. 11.50, able to bend the head forward. 11.53, some drowsiness, and sleep till 12, M. 12, M., patient feels better ; 10 minims were again applied ; respiration 30, much less humid, and more thoracic ; pulse 104, weaker. 12.17, respiration 32 ; a slight paroxysm. 12.20, respiration 36 ; easier and long drawn ; pulse 112 ; patient drowsy. 12.25, 20 minims, some spilled. 12.28, patient asleep ; breathing frequent, sometimes jerking. 12.48, for the last 7 or 8 minutes patient has been sleeping for most of the time. 12.50, bed-pan called for, and a greenish discharge evacuated, supposed to be the remains of the two injections administered since morning, viz., s. s. quiniæ (gr. 20) ℥ss., brandy Oss. and tr. cannabis ind. ℥ss. 12.55, a second discharge of the same kind. 1.0, respiration 34, pulse 100 ; Patient asleep ; the head before drawn rigidly back is now somewhat forward. 1.10, pulse 108. 1.17, bed-pan called for ; Patient sleepy. 1.27, respiration 31, pulse 100 ; 20 minims applied. 2.0, respiration 32, pulse 100 ; sonorous rales in the chest ; shrill on palpation. 2.5, 30 minims, bowels moved, discharge gelatinous, shreddy and offensive. 2.34, pulse 100, respiration 3, 25 minims applied ; respiration embarrassed, perhaps due to efforts in defecation ; an injection of beef tea not retained. 3.15, gr. $\frac{1}{16}$ applied in form of powdered extract. 3.30, a spasm, patient uneasy, breathing hurried, short and jerking. 3.40, gr. $\frac{1}{8}$ in powder applied ; pulse 102, respiration of the same character, and 44 during spasm. 4.0, gr. $\frac{1}{4}$; about this time became urgent. 4.10, spasms intense. 4.15, patient died in a very severe spasm, involving the whole body. During the paroxysm the action of the heart was very feeble and intermittent, as proved by palpation and the pulse. In the midst of it $\frac{1}{4}$ gr. was applied to the external wound, but with no effect. The pulse was felt for about 30 seconds after the cessation of respiration.

No post-mortem examination allowed.

PART SECOND.

CRITICAL ANALYSIS.

ART. IX.—*Lectures on the Diseases of Women.* By CHARLES WEST, M.D., etc., etc. Part I. Diseases of the Uterus. Philadelphia: Blanchard & Lea, 1857, pp. 316.

THE work now republished, is from the pen of a practised writer, an experienced hospital physician, and a conscientious man; and, with the sense of shortcomings so graceful in the faithful and accomplished student, is recommended by the author to "the kindly judgment of my professional brethren, as embodying the results of ten years of observation in the wards of a hospital, and of the honest attempt to gather from each day's added experience something more or better for the use of those who look to me for help and guidance."

The subjects discussed in twenty lectures are the following:

Symptoms of diseases of women; menstruation and its disorders; inflammatory and kindred affections of the uterus; misplacements, inclusive of inversion; uterine tumors and outgrowths; tubercular and malignant diseases.

One peculiar fitness brought by Dr. West to his task is his familiarity with the modern languages and literature, which allows no barrier to that comprehensive review of the literature relating to the subject; to which he evidently superadds a familiarity with the relations of the personal character of men to the value of their teachings.

The character of Dr. West's mind is evidently not that of a partisan; for while he is ready faithfully to maintain a position which he believes to be correct, he yet differs from others with reluctance, and with none of that polemical spirit so offensive in some of the doughty champions of the day.

And thus an examination of Dr. West's book gives every reason to believe that the caution with which he shrouds his allusions to the much vexed question of ulceration, will be laid aside whenever continued observation has emancipated him more fully from the spell laid on so many of the London men by the influence of Robert Lee.

Indeed, before endeavoring to give our readers an insight into the many merits of this work, it may be well, *in limine*, to show more fully the views of Dr. West on this subject.

He thus sums up his views:

"1st. Uterine pain, menstrual disorder, and leucorrhœal discharges —the symptoms ordinarily attributed to ulceration of the os uteri—are met with, independently of that condition, almost as often as in connection with it.

"2d. These symptoms are observable in both classes of cases, with a vastly preponderating frequency at the time of the greatest vigor of the sexual functions; and no cause has so great a share in their production as the different incidents connected with active exercise of the reproductive powers. But it does not appear that ulceration of the os uteri exerts any special influence, either in causing sterility or in inducing abortion.

"3d. While the symptoms are identical in character in the two classes of cases, they seem to present a slightly increased degree of intensity in those cases in which ulceration of the os uteri exists.

"4th. In as far as could be ascertained by careful examination, four-fifths of the cases, of either class, presented appreciable changes in the condition of the uterus; such as misplacement, enlargement, and hardening of its tissue, while frequently several of these conditions co-existed. An indurated and hypertrophied state of the cervix uteri, was, however, more frequent in connection with ulceration of the os uteri than independently of that condition.

"5th. The inference, however, to which the last mentioned fact would seem to lead, as to the existence of some necessary relation, such as that of cause and effect, between ulceration of the os uteri and induration of its cervix, is, in great measure, negatived by two circumstances, 1. That in numerous instances an indurated cervix co-existed with a healthy os uteri. 2. That, while in many of the cases in which induration of the cervix existed, the ulceration of the os was very slight, induration was entirely absent in other instances where the ulceration was noticed as having been very extensive.

"Since then, we find that a very great degree of resemblance exists between the two classes of cases; that women, of the same age, of similar circumstances, present the same symptoms, leading to the same results, having the same duration, and attended with the same structural changes, whether ulceration of the os uteri be present or absent; it may fairly be inferred that ulceration of the womb is neither a general cause of uterine disease, nor a trustworthy indication of its progress; and it follows, I think, as a necessary corollary, that the endeavor by local remedies to remove this condition of the os, is not the all-important object in the treatment of uterine disease, which the teaching and practice of some physicians would teach us to believe." P. 103.

These, however, are the local means which Dr. West finds himself obliged to resort to in some cases.

"The vivid red appearance of the os uteri, associated with more or less extensive abrasion of its surface, and a slightly granular appearance, which is not unfrequently met with during the more active stages of these affections, for the most part alters its character, loses its vivid color, and finally disappears under the local depletion which the state of the uterus generally calls for. Sometimes, however, it continues, its granulations become large, soft, very vascular, and bleed easily, while the surface furnishes a very considerable quantity of glairy discharge. In this state, the os and cervix uteri are usually tender, sexual inter-

course is painful, and is often followed by a little bleeding. This condition, like the swollen and granular state of the palpebral conjunctiva, with which we are familiar in the purulent ophthalmia of young children, is generally much benefited by extensive scarifications, which may be followed by the daily application of powdered alum, on a piece of cotton-wool, soaked in a strong solution of alum. By means of a piect of thread, tied to the cotton-wool, it can be removed by the patiene herself, in the course of a few hours, though it must always be introduced through the speculum. In the greater number of instances, the state of the os uteri becomes so much improved in four or five days, that this mode of treatment may be then dispensed with, and the sedulous employment of strong astringent injections will usually suffice to complete the patient's cure. When this is not the case, but the morbid condition still continues, more powerful applications may be needed. The nitrate of silver is not, in general, suitable in these cases, for its application is often followed by pain and also by bleeding. The acid nitrate of mercury, both in this instance and, also, whenever a strong caustic is required, has seemed to me the most useful application; and, with moderate care, its employment is unattended with risk. When it is used, however, the patient must lie on her back, and one of Coxeter's bivalve speculums being introduced, so as thoroughly to expose the os, and include the cervix, a little cotton-wool must be carefully dispos d all around the edge of the speculum, so as to absorb any of the superfluous acid, and to prevent it from running down outside the speculum, and thus injuring the vagina. A brush can be easily extemporized, by trimming a little piece of cotton-wool after it is placed in the holder, and the whole diseased surface may then be painted over with the caustic, which immediately forms upon it a white eschar. A piece of dry cotton-wool now pressed against the part, will absorb any superfluous caustic; the little strips placed around the edge of the speculum may then be removed, and the speculum withdrawn. An additional precaution, however, which it is well to take, consists in introducing, before the withdrawal of the speculum, a piece of moistened cotton-wool up to the os uteri, whence it may be removed in the course of a few hours, by the patient. It is seldom that either pain or bleeding follows this application; and, at the end of a week, the eschar will usually be separated, the surface will be found to have lost its fungous character, and cicatrization to be commencing at its edges. A zinc lotion of about five grains to the ounce, or the black wash, employed as a vaginal injection, twice a day, will now generally be sufficient; but, sometimes the surface puts on an indolent character again, and it may then be expedient to touch it once or twice with the nitrate of silver, and I have occasionally found it necessary to repeat the application of the nitrate of mercury.

"Another state, which I have but rarely met with, but which seems usually to call for caustic applications, is one in which the os uteri is the seat of a distinct ulcer, with sharply cut edges, its surface apparently a little depressed below the adjacent tissue, partially covered by a thin layer of dirty yellowish lymph, but red and bleeding on its re-

moval. This condition has usually come under my notice in women whose previous history afforded evidence of syphilitic infection some months before, and it has generally disappeared rapidly under one or two applications of the nitrate of mercury.

"Besides the two above-mentioned conditions of the os uteri which are those that oftenest seem to call for caustic applications, I have in other instances employed them, almost empirically, where I have found ulceration, or some allied morbid condition of the os uteri to exist, independent of any appreciable disease elsewhere, or where a morbid state of the os has persisted, after the other symptoms of uterine ailment have been subdued. Neither the one nor the other of these cases has, however, seemed to me of frequent occurrence." P. 119.

We have been careful to extract thus largely from Dr. West's views on these points, because they refer to the most frequent class of uterine diseases presented to the profession, and we trust that the following criticism may be considered justifiable.

1. That Dr. West, in his belief that inflammatory conditions of the body and cavity of the uterus are the most important and earliest in pathological sequence, does not in reality present views differing materially from those which advocate careful local treatment of lesions exhibited by the speculum; for the manifestations acknowledge the same cause, and are often amenable to the same treatment; local depletion or stony caustics, curing all sometimes, and at others leaving, as Dr. West has shown, local lesions demanding special applications.

2. That it is unfair to class the advocates for local treatment applied to the os and cervix uteri, as endeavoring by these means to remove affections of the os and cervix alone; since reduction of uterine volume, and removal of the whole attendant train of morbid sympathies, enter fully into their design.

3. That, whereas symptoms identical in character, become more intense when ulceration exists, according to Dr. West's own showing, while also under these circumstance induration and hypertrophy are more frequent, it may justly be claimed that, in a large proportion of Dr. W.'s cases, where induration did not co-exist with ulceration, that this lesion had existed before Dr. West's examination; for on page 111 will be found a case of induration of the cervix, in which "abrasion" temporarily showed itself even under the advantages of Dr. W.'s treatment.

4. That the absence of induration in some cases of extensive ulceration cannot be urged against the importance of the ulceration itself, for the reason that we do not yet know why certain ulcerations become indurated and others do not, and we, therefore, cannot yet thoroughly estimate the respective value of loss of tissue with or without accompanying induration.

5. That while it is unfair to stamp men relying more on local treatment than Dr. West, as giving attention to "ulceration alone," it is equally unfair in Dr. West to disguise this lesion in his own cases by such roundabout description as "that peculiar granular abraded appearance," or that "vivid red appearance of the os uteri, associated

with more or less extensive abrasion of its surface, and a slightly granular appearance,"—terms by which some men in London seek to describe appearances, which the mass of the profession can only recognize by the simple word—ulceration.

Moreover, Dr. W. is driven to attribute the benefit derived from application of caustic to the general increased care and management of the case ; and argues that the very necessity for local treatment embitters, to some extent, the woman's subsequent life, from apprehension of its reëmployment; while elsewhere in his book he alludes to the captivating character of mechanical views of dysmenorrhœa. Certainly, theories which demand local treatment cannot differ much in their mental effects.

According to our individual experience, it is a comfort to a woman to know that distressing symptoms, vague and uncertain in their character, are due to a local cause, and are to be relieved by local treatment. One well marked case occurs to us at this moment of a patient confined under our care in 1854, who, eighteen months after, presented herself with a large ulcer of the os uteri, with the attendant dysuria and other symptoms, and was entirely cured by leeching, cathartics, and the nitrate of silver. Last winter she came again, saying " that she had the old trouble she was sure, and wished to get relieved as soon as possible;" and a relapse being recognized, she was gratified with a similar result.

It is a disagreeable thing to say to a patient, you have a fibrous tumor growing out from your womb, the development of which cannot be checked or foreseen; or you have an ovarian tumor commencing, the issue of which is uncertain; or you have incipient malignant disease; but it seems to us that with such contingencies depending on an examination, it is a relief to physician and patient when we can simply say, you have some acute or chronic inflammation of the neck or body of the womb, or of both, with or without ulceration, depending on such or such a cause, which I can relieve, or cure now, but which may come back, and can again be as readily cured by methods determined upon by the same intelligent means.

Our author's recommendation to introduce the speculum with the patient lying on the left side, notwithstanding his admitting that the os uteri falls more readily within the focus when the patient lies on her back, that light is thus more thoroughly admitted, and that certain applications are only thus to be made—smack of the same unnecessary refinements that induced him to seek expressions that would relieve him of the necessity for pronouncing the word ulceration.

The only argument against introducing the speculum in th emanner admitted by our author to be the best is, " that its apparent indelicacy is so serious an objection."

But these peculiarities do not originate with Dr. West, they are the deferences insensibly paid by a man of good feeling and amiable character to the prejudices of his seniors, and we confidently expect that the great merits of Dr. West will enable him to shake off such weaknesses as we have signalized, and ask himself " what mighty difference can

there be 'twixt tweedledum and tweedledee." Certainly Dr. West in Wimpole street need not impress his students with the fanciful idea of the indelicacy of using an instrument in a manner constantly employed by Professor Murphy, in Henrietta street, and Dr. Bennett, in Grosvenor street. The difficulties certainly must be created by the physician, not by the patient.

In his directions for introducing the speculum, Dr. W. does not give a practical rule, which is of great service, viz., pressing down the perineum with the instrument; you gain space in this direction, as the child's head does in pushing back the coccyx.

The value of the uterine sound is justly set forth in these pages, and in no instance under Dr. West's observation have dangerous symptoms resulted from its use. In our own practice no examination of an unimpregnated uterus is made without introducing the sound, for the impossibility of otherwise appreciating the volume and direction of certain uteri cannot be denied. On one occasion, after its introduction, a patient had a hysterical epileptic convulsion, accompanied with discharge of urine, which, however, soon ceased, and gave no further trouble. In another case, occurring to Dr. Isaacs, the simple introduction of the sound was followed in the course of the day by severe hœmorrhage, without the discovery of any disease which could account therefor. These are the only instances of evil effects with which we are familiar; but the difficulties signalized by Dr. West, in the introduction of this instrument, where ante-flexion, or fibrous tumor in anterior or posterior wall, or retroflexion, interpose obstacles sometimes insuperable to Dr. Simpson's sound, may, we believe, be better overcome by an instrument just made by Tiemann, after a French model, than by any other. This is a No. 10 flexible catheter with a stylet which can be flexed to an exaggerated curve by a screw in the handle. With this, the direction can be changed at any moment, at any given point, without the necessity for losing the ground already gained. Moreover, flexions can be thus reduced without making the cervix a fulcrum for leverage, and, in short, you have the advantage of a slender finger within the organ, which you can flex at will.

We were enabled, by the aid of this instrument, to diagnosticate an anteflexion of the uterus, the probable cause of dysmenorrhœa, where our best offorts had failed to introduce Simpson's or Atlee's sound beyond the os internum, and when the diagnosis was thus made, reversing the screw, straightened the organ, and proved the absence of adhesions; in this case stricture of the os internum had been diagnosticated.

Our author does not dwell on the treatment of dysmenorrhœa depending on flexions of the uterus, yet in speaking of acute inflammation of the unimpregnated uterus, he describes a case where 1℥ of pus was found in the cavity of the organ, apparently retained there by flexion of the body on the cervix.

The value of Dr. W.'s advice in regard to suppression is keenly appreciated by the reviewer, who was so misled recently, as to prescribe a tonic course of treatment of amenorrhœa without examination, nor were his suspicions awakened until, *when sent for one morning, he saw a five months fœtus in the chamber.*

"You must not allow your respect as men, your gallantry as gentlemen, to quite lose sight of what may much import you as physicians." In the case referred to, after seeing the fœtus, we examined the areola, and squeezed milk from the nipple.

Intra-uterine injections are not used by Dr. W. in leucorrhœa, nor does he refer to the method of introducing medicated ointments within the uterus, which produce all the benefits to be derived from topical applications in this locality, without their risks; he, however, recommends astringent injections in menorrhagia which the plug fails to relieve.

The mechanism by which prolapsus is produced will well repay attentive perusal, and he signalizes a result referred to by Kiwisch and Virchow, of diseased kidney, resulting from obstruction to the flow of the urine through the ureters in prolapse of the bladder.

The question as to the employment of mechanical support is thus summed up: Mechanical support not suitable. 1st. "In slight degrees of uterine prolapse. 2d. In cases where the descent of the womb, still comparatively recent, is due to the persistence of the state of puerperal hypertrophy, owing to imperfect involution of the organ after abortion or labor. 3d. In cases where uterine disease, of whatever kind, was the occasion of the misplacement of the organ, such disease being still in a stage calling for treatment.

On the other hand, mechanical means of some kind or another are generally appropriate:

1st. In all cases of external prolapse, or procidentia of the uterus.

2d. In cases of long standing prolapse, in the second degree, associated with much relaxation of the vagina, and consequent weakening of the uterine supports.

3d. In all cases of extensive laceration of the perinæum, and, for a similar reason, in cases of prolapsus in the aged.

4th. In cases of the minor degrees of prolapsus, which are accompanied by extreme distress, or violent pain.

5th. In all cases of considerable prolapsus of the vagina, with or without descent of the rectum or bladder; and in all cases in which prolapsus is secondary to any of those other forms of displacement."

Dr. W. does not allude to Meig's pessary; seems to incline to the globular form, and lays more stress on the use of sponge than is customary of late years. Hull's utero-abdominal supporter receives a passing commendation, and Baker Brown's operations merit approval.

It will be interesting to note how far the permanent results of these ingenious operations will prove their superiority over those for contracting the vaginal canal. The recent article in the *Lancet*, by one of Brown's former house surgeons, although marked by bad temper and taste, yet suggests grave doubts as to the reliability of the reported success.

An annoying class of cases to treat is one in which prolapsus co-exists with phthisis, and where the expulsive cough drives everything before it. Inhalations with Meig's pessary, have here given us the best results.

The subject of uterine deviations is treated in a temperate, calm man-

ner; and while recognizing the necessity for their careful diagnosis, and the great difficulties sometimes attending it, his treatment consists in reposition, when practicable, by the sound, and then in combating general symptoms, leaving the displacement to take care of itself, without any mechanical contrivance. This decision was reached on account of their irksomeness, the necessity for frequent examinations, the possibility of their becoming painful, dangerous, or fatal, and the liability to relapse, with the possibility of the symptoms remaining after cure of the deviation.

Dr. West has not, however, given these methods of treatment a fair practical trial.

The subject of uterine tumors and outgrowths, is discussed by Dr. W. in a very able and instructive manner. The question of enucleating fibrous tumors is thus answered:

"If now, to the published mortality, we make some addition for suppressed, or at least, non-reported cases, we arrive at a result which compels us to class the operation among the most hazardous in surgery. These risks, too, be it observed, are incurred not in case of a disease surely and rapidly destroying life, but of one that runs a slow course, that often comes to a stand-still of its own accord, and that almost always affords a prospect of months or years of valetudinarianism indeed, but still of life, which the operation may cut short in a few days. Success, on the other hand, by no means frees the patient from her ills; for fibrous tumors are but seldom solitary, and the removal of one may but serve to bring to light the existence of another beyond the reach of surgical interference."

The preference is given to excision of polypi over their ligation, on the ground of greater ease, speed, and safety.

Equally admirable with the article on misplacements and tumors, is that on cancer, for a sketch of which our space does not suffice—and we will close with the simple statement, that Dr. W. has never seen a case of genuine scirrhus of the uterus; has only seen three or four cases in the last ten years, in which he considered amputation of the neck justifiable, and in the only one in which it was performed, the patient died in eight months.

The internal use of gallic acid is relied on in hemorrhage. In some cases of soft medullary or epithelial cancer, breaking down the tissue with the finger, and then injecting with the tincture of the sesquichloride of iron, has proved beneficial in his hands. In addition to astringent injections ʒj. of dilute nitric acid to Oj. of water, ʒj. of the sulphate of iron; ʒiij. of the extract of conium to Oj. of water; ʒj. of creasote to the pint of mucilage, ʒj. to ʒss. of the nitrate of silver in ʒj. of water are recommended. The latter injected in the diseased tissue, destroys bad odor, and hastens separation of slough.

We must now conclude this hastily written sketch, with the confident assurance to our readers, that the work will well repay perusal. The conscientious, painstaking, practical physician is apparent in every page; and while the work opens no new path for investigation, and displays no great force of character, it does present information on these

subjects, which will be new to a very large class of men who dabble in these diseases.

In the criticisms which we have ventured to offer, we have not designed in any way to impugn the value of the book; for the state of the vexed questions in that latitude is just now obscured by a peculiar London fog, from out which no man is surer to emerge more safely, and with greater credit, than Dr. West. G. T. E., JR.

ART. X.—*Diagnostik der Tumoren des Uterus ausserhalb der Schwangerschaft und des Wochenbetts.* Von Dr. B. BRESLAU. München: Christian Kaiser, 1856.

Diagnosis of the Tumors of the Uterus in Non-pregnant Women. By B. BRESLAU, M.D., of Munich. Munich: Christian Kaiser, 1856, pp. 65.

DR. BRESLAU, though a young man in the profession, is already well known by his few select articles on obstetrical and gynæcological subjects. In his last work on the *Differential Diagnosis of Uterine Tumors*, the author intended to give a short synopsis of the physical signs by which we might be enabled to detect the nature of the different tumors in connection with the womb; the word "tumor" being taken more from a clinical than a mere anatomical point of view. All abnormal swellings of the uterus, such as simple hypertrophy, fusions, and dislocations, are included in the discussion.

After some preliminary remarks on the anatomy and physiology of the neck of the uterus, the *œdema* of the portio vaginalis is first taken into consideration. It is always the consequence of obstructed circulation in the veins or the lymphatics. At the beginning of the infiltration, the neck of the uterus feels soft, but soon becomes hard and solid. While the swelling is soft, it can be diminished by tapping it with a small trocar; but at a more advanced state, no fluid escapes from the opening. When examined with the speculum, the tumor appears to be smooth, quite white, or tinged with a bluish hue, and in a few instances a number of enlarged vessels are apparent underneath the epithelium. The tumor, in consequence of *purulent infiltration*, is hot, painful, smooth, with perceptible fluctuation, generally confined to one lip. The neck is sometimes considerably enlarged by a *hemorrhage* in its tissue. At the beginning, this tumor presents a fluctuation, but afterwards a peculiar noise, if pressed with the finger, similar to that connected with hemorrhages in the cavities of joints, in the scrotum, in muscles, etc.

The *chronic induration* of the neck is owing to a hypertrophy of the elastic cellular tissue, and of the few muscular fibres connected with the structure of this part. The hypertrophy of both lips generally takes the shape of a bung, and is more frequently met with in young sterile women, often connected with stenosis of the orificium externum, and enlargement of the canalis cervicalis.

The *snout-like hypertrophy* of one lip, we find mostly in women who have had children. The hypertrophy of both lips has often been mistaken for prolapsus uteri.

The *glandular hypertrophy* is an occlusion of the orifice of the mucous bags, situated in the cervical canal, and near the external orifice, in consequence of which the free issue of mucus is prevented, which, by accumulating, enlarges and thickens these membranous glands. In examining with the finger, it feels as if it touched a raspberry, and they appear to the eye as white, shining little cysts. The so-called ovula nabothi, as found in almost every uterus, are very likely nothing but pathological structures, *i. e.* obliterated mucous bags, or newly-formed cysts. These hypertrophied glands sometimes grow as large as a walnut, and when stalked, are called vesicular polypi. Glandular hypertrophy, connected with ulcerations, papillar hypertrophy, and induration of the neck of the uterus, has frequently been mistaken for commencing carcinoma, and after being removed with the knife, has been reported among the successful cases of operation for cancer uteri.

The *carcinomatous* degeneration of the neck may be scirrhus, fungus medullaris, epithelial, or colloid carcinoma. In the non-ulcerative stage of the disease, the diagnosis is connected with so many difficulties, that the greatest men in the profession have committed the most serious errors. The anatomical characteristics of the disease are as follows: in one or both lips are imbedded several small, hard, tuberculated, partially isolated, partially fused, tumors, and between these are found numerous ulcerated places, with a hard, sandy basis, and with swollen rejected, sharp edges. In the great majority of cases, the uterus has lost its mobility. The basis of the ulcers is often covered with condylomatous discolored granulations, which are inclined to bleed upon the slightest touch, while the non-ulcerated cancer has no peculiar color. The distinction of a pseudo-carcinoma (cancroid, epithelioma) from a true cancer, is impossible during life.

Dr. Clarke's *cauliflower-excrescence* is not a carcinomatous disease, but an enormous vascular tumor, a prolongation and hypertrophy of the papillar blood-vessels, connected with a formation of new capillary vessels, surrounded by a dense cellular tissue, and covered with a thin layer of epithelium.

Among the tumors of the uterus, *hypertrophy* (*engorgement, infarctus*) is first treated of. It is either an imperfect, regressive metamorphosis after childbed, or the consequence of a repeated metritis. The diagnosis of interstitial fibroids, from partial hypertrophy, is not possible during life; while the treatment, which is the same for both diseases, when it proves to be useful, is a sign that the case was one of hypertrophy. In *ante-flexio uteri*, the upper lip is generally somewhat enlarged. In most cases the probe, as a means of diagnosis, is unnecessary, though indispensable in many cases. The diseases which may be mistaken for *retro-flexio uteri*, are hypertrophy of the posterior wall of the uterus, pelvic abscesses, ovarian cysts, fibroid tumors, and carcinoma. The introduction and movement of the probe, *en tour de maître*, is often necessary in dubious cases. The diagnosis of *ante-versio* and *retro-versio uteri* are not at all difficult. The dysmenorrhœa, neuralgic pains, sterility, the symptoms from the bladder and rectum connected with these displacements of the womb, are very variable, and only show that there

is a disease of the womb, but without distinguishing its nature. Moreover, they often refer to co-existing inflammation, ulceration and hypertrophy.

With *hydrometra*, the finger often detects an atresia of the external orifice, or even higher up; and the tumor is often diminished by the spontaneous or artificial discharge of a slimy fluid. If the internal orifice is closed up by a flexion or stricture, and an atresia of the external orifice is present, the natural discharge of mucus is prohibited and retained in the lower section of the womb, in consequence of which the uterus attains the shape of an hour-glass. (*Uterus bicameratus vetularum Mayer, Rev*).

In diagnosis of *hæmatometra*, a puncture with the trocar is the best means of removing all doubt, which puncture, however, must be made of a very small size, because it often happened that in a rapid discharge of the blood, the latter was driven, by the sudden contraction of the uterus, through the previously dilated tubes into the cavity of the abdomen, thus occasioning a violent and fatal peritonitis.

Physometra seems to be always the result of gases coming from blood, pus or vapor in decomposition, which could not find its way through the orifice of the uterus. The so-called ructus vaginalis (rot vaginal), as often spoken of by patients, cannot be relied upon as an unfailing symptom, because at times flatus from the rectum are mistaken for it, or they willingly deceive their physicians by placing a caoutchouc bag in the vagina, and thus produce the sound in question. Sometimes, also, a discharge of gas from the uterus is owing to a fistular connection between the womb and one of the intestines, in which case fæces may be found in the uterus.

Stony concretions in the uterus have a double origin, viz: from an intrauterinal lithopædion, or from metamorphosed fibroid tumors. The spontaneous discharge of stony particles, or the touch with a metallic sound, are sufficient for diagnosis.

The diagnosis of *interstitial fibrous tumors* is surrounded with great difficulties. Its diagnosis from partial hypertrophy can only be ascertained *ex juvantibus et nocentibus*, in the great majority of cases. If we are induced to believe that a *fibroid tumor* is present *in the cavity of the womb*, it is necessary to dilate the cervical canal by bougies, dilators, compressed sponge, or incisions, in order to confirm our diagnosis, and to promote its expulsion.

Polypi of the womb, *when descended into the vagina*, have sometimes a deep and large ulceration on their most prominent portion, which has often been mistaken for the external orifice of the womb, and the case taken and treated for a prolapsed hypertrophied uterus. Their distinction from inversio uteri has puzzled the very first men of the profession. The symptoms of inversio uteri appear, in most instances, suddenly after difficult labor, incautious removal of the placenta, etc., while a polypus wants a comparatively considerable length of time for its development, size, shape, and color, are often in both affections the same; while the uterine probe may be advanced as far as $2\frac{1}{2}''$ and more in polypus, which is impossible in inversio uteri. In many cases

of inversio, the absence of the body of the uterus in the abdomen may be ascertained by means of the double touch per rectum and hypogastrium. Malgaigne's test, with a male catheter introduced into the bladder, wants its sanction by experience. The tumors in both diseases are inclined to increase and decrease by turns. A uterus which has been inverted for a considerable length of time, may lose its sensibility; while a polypus, when lined with a healthy mucous membrane, may be sensitive to the touch. Sometimes it is possible to detect the internal orifice of the Fallopian tubes in an inverted womb. The rational symptoms are the same in both diseases. The diagnosis of a *periuterinal fibroid tumor* is generally no difficult task, though tumors of the ovaries may be mistaken for them.

These short selections from the original work, will enable our readers to form an idea of its value. In our own opinion, it is a very good manual for the student and beginning practitioner, and the author has achieved the difficult task of saying much in a few words.

E. NOEGGERATH.

ART. XI.—*A Collection of Remarkable Cases in Surgery.* By PAUL F. EVE, M.D., Professor of Surgery in the Medical Department of the University of Nashville. Philadelphia: J. B. Lippincott & Co., 1857, 8vo. pp. 858.

DR. EVE has not, we believe, over-estimated the value of a collection of well authenticated and fully reported cases in surgery, belonging to that class called *rare*. We could wish they were all collected and properly arranged, in a convenient form for reference; and he who should achieve such a task would be entitled to the gratitude of every student and practitioner of surgery.

But such a work, to meet our purpose, would not be a museum of monstrosities, collected merely to amuse the curious, nor yet an *omnium gatherum* of simply extraordinary cases without scientific interest. Such a collection, it is true, could not fail to amuse us in our leisure hours, and, in a certain sense, might prove instructive. But it would not meet the just expectations of any practical surgeon, who thus reasoned with himself: "*If the whole of our art is in observation, and medicine is only enriched by facts,* then surely a collection of the most remarkable must prove of essential service to its cultivators, not only in lightening their labors, but in aiding them in establishing the principles of the science." On the contrary, he would anticipate that not only should the cases be appropriately arranged under given heads (a minor consideration, comparatively), but that they should be selected with especial reference to their adaptation to the illustration of important points in practical surgery.

Although such a work would require none of the scholarship necessary to authorship, yet, as a mere compilation, the editor would need certain qualifications to perform his task acceptably. He should be a man of experience, of sound judgment, of extensive reading, and having *unlimited* means of reference.

If he were not qualified by practical experience, or by the possession of a discreet mind, his cases might be selected with little reference to their appropriateness in illustrating doubtful points, or in aiding the practitioner in the treatment of obscure and perplexing diseases. For it is in this precise particular, as already remarked, that a collection of rare cases can have a practical value. If not thoroughly familiar, also, with the literature of his profession, and if his resources for reference were inadequate, the work would lack the necessary completeness in the selection and detail of cases.

The work is divided into ten chapters; nine of which have the following heads, respectively: I. Head; II. The Spinal Column; III. The Face; IV. The Neck; V. The Chest; VI. The Abdomen; VII. The Pelvis; VIII. The Genito-Urinary Organs; IX. The Extremities. The tenth chapter contains miscellaneous cases. Each chapter is subdivided into sections. This arrangement of cases is according to the different regions of the body, and is natural and convenient.

Although we approve the design of this work, and cannot sufficiently commend the compiler's good intentions, we are constrained to offer the following points of criticism:

1. The most superficial examination of its contents will convince the reader that Dr. Eve's literary resources were not sufficient for the proper accomplishment of the task upon which he had entered. The cases are far too seldom copied from the original publication, to give them a positive value to a writer who may consult his volume as a work of reference. Whoever has noticed the errors which creep into articles as they go the round of medical periodicals, will be loth to refer to other than original authority. The very first case in the book illustrates our remark. The editor falls into the unfortunate error of pronouncing the case anonymous, and deprecates such communications, when, in fact, it was published under the name of the venerable Dr. Stephen W. Williams, as Dr. Eve could have learned by referring to the Journal (*N. J. Med. Reporter*), in which it first appeared. It is true that continental periodicals could be consulted only to a limited extent, without great pains-taking, but there seems no excuse for the failure to examine our own and British journals. There are libraries now in this country, both public and private, which contain, with but few exceptions, the entire periodical medical literature of the English language.

2. Dr. Eve states, in his preface, that, as uncommon events and strange circumstances can best be described by those who have observed them, the language of the writer has generally been adopted, yet he acknowledges to have occasionally taken the liberty of abbreviating articles, and of adding a few brief comments. This is all very well, provided the reader is allowed to distinguish between editor and author. But, on referring to the subsequent pages, such distinction does not clearly appear. We regard this as a great error, and one which materially lessens the value of the work as a source of reference.

3. In the selection of cases, far too little regard seems to have been had to the practical value of the work. The editor would seem to have

first collected his materials, and then have arranged them, so far as possible, under appropriate heads. It occurs to us that the importance of the collection would have been materially enhanced, had the range of subjects for illustration by remarkable cases been greater, and the number of cases under each head been less. For example, section first: *Injury of the scalp.*—Four cases are given under this head, and they are all cases of *scalping*. They teach this single practical lesson, viz. that wounds of the scalp, however extensive, oftentimes readily heal, either by reunion, or the reproduction of tissue. A single case or two, at most, would have established these facts, and left space for the compiler to add cases illustrative of other injuries or diseases of the scalp. Nor would these latter cases, if properly selected, have been less remarkable than those given, if, indeed, it were essential to the character of the work that they be novel.

We must object, also, to the latitude which Professor Eve gives to the term "remarkable." Cases are occasionally introduced which are not at all "remarkable" in surgical practice, but which seem to have been selected simply for some trivial, unimportant circumstance connected with them. For example, on page 41, the case of the Duke of Orleans, *Most extensive fracture of the cranium*, is commenced, and occupies three pages. The duke was thrown from his carriage, striking upon his head, and was carried into a neighboring grocer's shop. As the injuries he received were no more severe than are seen daily in our large hospitals, we can discover nothing "remarkable" in the case, unless it be this fact, which, though "remarkable," scarcely entitles it to a place in this record: "Never was there a more impressive scene. In a poor back-room of a small grocer's shop, were to be seen the king and queen, the princes and princesses, of France, with the ministers of state and of religion, all kneeling around the humble bed on which lay the corpse of him who was the heir to the throne, while the clergymen repeated the prayers for the dead."

The publishers have done ample justice to the typography and binding of this volume, which are all that could be desired.

PART THIRD.

MEDICAL RETROSPECT.

Report on the recent Advances of the Medical Sciences in France; prepared for the NEW YORK JOURNAL OF MEDICINE. By E. BROWN-SÉQUARD, M.D., Professor in the Cooper Institute, New York.

I. PHYSIOLOGY.—1. Professor Bernard published some time ago a paper, in which he tried to prove that sulphuretted hydrogen when inhaled is a most active poison; while, on the contrary, when it is introduced in the intestinal canal, it does not produce the least ill effect. It is then absorbed, according to this able experimenter, and when it arrives with the blood in the lungs, it goes out with carbonic acid. An Italian physiologist, M. Paolini, states that sulphuretted hydrogen does not entirely pass away from the blood in this last case, as Bernard thinks. The fact that mineral waters containing this gas have a therapeutical influence, seems to show that it is brought by the blood farther than the lungs. Besides, M. Paolini affirms that he has found sulphuretted hydrogen on the skin of a person who had drunk mineral waters containing this substance. But other facts are necessary to decide the question of the elimination of this gas by the skin, as in this case the patient had taken baths in the same mineral waters.

2. I have presented a new paper to the Academy of Sciences, on the importance of the functions of the supra-renal capsules (see *Comptes Rendus*, 21st Dec., 1857, p. 1036). I try to prove: 1st, that if certain animals (the cat) can live some time after the extirpation of the two capsules, there is no instance on record of a greater duration of life than two months or a little more; 2d, that albinos (rats) can live longer, but that this very fact has a great value for the views I have proposed on the causes of death when the capsules are missing, as these animals have no pigment; 3d, that even cats, albino-rats, die in a few days when the extirpation is made on the same day; 4th, that in rabbits, dogs, and cats, the simultaneous extirpation of the two capsules is followed by death much quicker than the extirpation of the two kidneys; 5th, that death comes so soon in most of the cases of extirpation of the two capsules, that peritonitis and inflammations of some of the viscera of the abdomen have not time enough to be sufficiently developed to kill; 6th, that the symptoms are not those of an inflammation, and that they exist not only in cases of extirpation of the capsules, but also in cases of a peculiar disease extremely common among rabbits in Paris, and in which the capsules are found altered, congested, and brown instead of yellow.

3. Professor Bernard has discovered recently that the blood coming from the sub-maxillary glands is as red almost as the arterial blood, when these glands are active, *i. e.*, secreting much, as when sapid food or vinegar is put on the tongue or galvanism applied to the nerves going to these glands, while the venous blood of these organs is black when they are at rest.

II. Practice of Medicine.—1. A case of chronic glanders, treated successfully by Dr. H. Bourdon, has been reported by him (*Bulletin de l'Acad. de Médecine*, 8th Dec., 1857). The conclusions of the author are : 1st, we should not lose all hope of cure in chronic glanders, even when it is farcinous ; 2d, the means of treatment which seem to be most favorable are the preparations of iodine, and particularly the iodine of sulphur and sulphurous baths, united with tonics and active ventilation of the sick room ; 3d, very early opening of the abscesses seem to prevent their ulcerative degeneration.

2. A remarkable paper on paralysis due to arsenic, has been lately published by M. Imbert Gourbeyre, in the *Gazette Médicale de Paris*, Janvier, 1858. The existence of this kind of paralysis had been doubted by Tanquerel, who was inclined to consider lead as the only metal that may produce paralysis. M. Imbert Gourbeyre says, it would be easy to show that mercury, antimony, zinc, bismuth, and even tin, have produced paralysis. Hahnemann, in the last century, had already quoted more than ten authors who had seen paralysis from arsenic poisoning. M. Imbert Gourbeyre states that not only does arsenic produce paralysis, but, like mercury and lead, it causes trembling, pains in the limbs, contractions, and even convulsions. He relates more than thirty cases, proving that poisoning by arsenic may cause a paralysis of movement or of sensibility in the upper, or the limbs, on one side or on both.

3. Several medical journals have spoken of a mode of treatment recently proposed by M. Renouard, against typhoid fever. In the beginning of the disease, when it is not yet well characterized, expectation is the method followed by this physician. Hardly does he employ then a slight purgation. When there is no doubt as regards the existence of typhoid fever, whatever be its form, M. Renouard has recourse to the following medication for an adult subject :

Potion :	Distilled water . .	100 grammes ($3\frac{1}{2}\frac{3}{3}$)
	Emetia . . .	15 or 20 centigr. (3 or 4 grs.)
	Diacode syrup . .	25 grammes ($6\frac{3}{3}$)
	Water of orange flowers	5 grammes ($4\frac{3}{3}$)

A tablespoonful to be taken every hour. Every other kind of drink must be avoided for four or five hours, so as to avoid vomiting.

When the patient does not vomit, or is not purged by this potion, or when the two effects are but slight, the effect is favorable. But if these effects are considerable, the use of the potion must be stopped, and a tablespoonful only every three or four hours should be taken.

The next day, or two days, after this potion has been taken, another and similar one must be taken. Rarely is it necessary to have recourse to a third potion.

Cephalalgia is the symptom which disappears first, and M. Renouard affirms that it has always ceased after the first potion. Before fever ceases this physician orders some chicken or even beef broth.

Out of thirty-six cases treated as above, there have been only two deaths. Of course, we cannot draw any positive conclusion from this result, but it certainly deserves the attention of practitioners, as M. Renouard is a respectable and learned man.

4. A very interesting paper has been read by M. Briquet, at the *Académie de Médecine.* Its object is the seat of the pain in lead-colic. This able physician declares in forty-four cases he has observed almost always what we will expose. Most of the pathologists place in the bowels the cause of pain in lead colic. However, Laënnec and Barbier thought the disease was in the spinal cord ; and Andral and Grisolle admitted that it was a neuralgia. Giacomini affirms that the pain is not in the bowels, but in the muscles of the abdomen.

It results from the researches of M. Briquet, that this last opinion is the right one : he says, he has ascertained that the seat of the pain is in one or many of the muscles of the abdomen, and particularly near their insertions on the pubis, the ribs, or the spine. Sometimes the skin, above the painful part of a muscle, is hyperæsthetic ; at other times it is anæsthetic. A mode of treatment, quite successful, although unexplained by M. Briquet, consists in the application of a galvanic current to the painful muscle : a single application is usually sufficient. I can add my testimony to that of M. Briquet ; at least, I have seen the pain, which was excessive, disappear completely after ten minutes, under the influence of an electro-magnetic current. My friend, M. Bonnefin has seen many such cases. We will remark, in addition, that after the pain has disappeared it is easier to cure the constipation, which, with the pain, constitute the lead-colic.

5. *Treatment of intermittent fever.*—There is a means of treatment of fever and ague, which is by far too neglected. It consists in applications of the cold shower-bath a little before fever sets in. Although we do not admit, as it might be concluded from a paper of M. L. Fleury, that every case will be cured by this mode of treatment, we think that the facts mentioned by this able physician are worthy of attention. He states that he has treated, during the last ten years, one hundred and fourteen patients, and that they all have been cured, *only* by cold shower baths, and that there has not been a single return of the disease. Forty-three were recent cases, having existed from two days to three months ; seventy-one were old and rebellious cases. In all these last cases there was an enlargement of the spleen, or of the liver, or of both ; there was anæmia or even a cachectic state.

One single shower-bath has often been enough to effect the cure. It has never been necessary to give more than five shower-baths. Not only is periodical fever cured by this means, but all kinds of periodical affections may also be cured in the same way.

When the periodical attacks are stopped, there are irregular ones, in most of the cases, as long as the engaged viscera have not been brought down to their normal volume. In these cases local *douches* have been

applied twice a day, on the hepatic or splenic regions.—*Comptes Rendus de l'Acad. des Sciences*, 30th Nov. 1857.

We may add, that lately, a French military physician, who has had to treat a good many patients attacked with the severe Algerine intermittent fever, has spoken of tannate of iron as almost as good a remedy as sulphate of quinine.

6. *New researches on the general paralysis of the insane.*—This affection, which has been, for the first time, well described by some French physicians, among whom particularly Bayle and Calmeil, has lately been the object of a very remarkable inaugural dissertation by M. Linas. One of the principal questions examined by this young physician, concerns the nature of this disease. Is it the effect of an inflammation of the encephalon or of its membranes, as Bayle, Delaye, Calmeil, Parchappe and others admitted, or is it a purely *nervous* affection of the brain, as Lélut and others have maintained?

Already Bayle had opened one hundred corpses of paralytic insane, and Calmeil forty-seven. They had found the meninges of the convexity of the cerebral lobes opaque, injected, hardened, infiltrated with serosity, and offering frequently granulations or false membranes. M. Linas has opened one hundred and fourteen bodies of paralytic insane. In twelve cases he has found the pia-mater excessively injected. The cerebral substance was quite full of blood, the grey matter being from an intense red to a dark violet. In twenty-eight cases, besides the preceding alterations, there were adhesions between the convolutions and the meninges. In seventy-four cases, the meninges were infiltrated, opaque, and as tough as a fibrous membrane; the cortical substance of the brain, sometimes violet, sometimes yellowish, according to the degree of the paralysis, always softened, less thick than in normal brains; the white substance injected, and sometimes infiltrated; the convolutions meagre, and the whole mass of the brain more or less atrophied.

In thirteen cases, besides the preceding alterations, there was one or many small circumscribed places where the encephalitis had been more violent than elsewhere. In eight cases there were also effusions of blood.

From these facts, it results positively that the paralysis of the insane depends upon a chronic inflammation of the brain and its meninges. Whether the disease begins in the membranes, as Bayle had said, or in the brain itself, as M. Calmeil maintains, is a question of comparatively little importance. The great point is, that the brain is always inflamed. M. Calmeil has ascertained with the microscope, that in doubtful cases, when the brain did not seem to be much altered with the naked eye, there were, nevertheless, all the microscopical appearances of inflammation.

M. Linas relates cases to prove, that an acute encephalitis may cause the paralysis of the insane.

As regards the first symptoms of this affection, M. Linas declares, that sometimes intellectual disorders first appear, and in other cases, muscular paralysis and insanity appear at the same time. It has been said that there was always what is called by the French, ambitious de-

lirium. But Parchappe, Trélat, Lasègue, have shown that there are exceptions to this rule, and that, therefore, there is nothing specific or essential in this symptom. M. Linas goes farther, and he calls this opinion a paradox. According to him, the delirium of paralytic insane has sometimes the monomaniac form, sometimes the hypomaniac, and in other cases the maniac; but he acknowledges that ambitious ideas are extremely common.

III. Surgery.—1. A very interesting case of extirpation of a tumor has been communicated to the *Académie de Médecine*, by M. François (*Gazette des Hôpitaux*, 1857, p. 582). About three years ago a young man, now sixteen years old, felt some difficulty in breathing through the left nostril. Eight months ago he consulted M. François, who found a tumor in the anterior part of the left nasal cavity. There was no pain, and the tumor, of a whitish rose color, bled as soon as touched. A few months after the patient came again to consult M. F., he complained of frequent hemorrhages from the nose. The tumor had increased. A ligature was placed round the protruding part of the tumor, but when this part fell off, it was found that a great deal of the tumor remained. From the 1st of May till the 24th of September, frequent and considerable losses of blood took place, and the life of the patient seemed to be in danger. The volume of the tumor become considerable, it protruded outside of the nostril; the left cheek was enlarged; the internal wall of the maxillary-sinus seemed to be healthy; there was no ex-ophthalmia, and the eye had no alteration of function. In the posterior opening of the nasal cavity, there were two prolongations of the tumor. Every touch on these prolongations caused a profuse bleeding. It was decided to take away a part of the maxillary bone, so as to be able to reach the limits of the tumor.

A curved incision was made on the skin from the left temporal region towards the left commissure of the lips; the flap thus formed was raised, and dissected along the bone until the orbit, and the maxillary bone were entirely laid bare. The saw-chain was then passed in the spheno-maxillary fissure, and by it the upper maxillary bone was divided from behind forwards. The hammer and the chisel did the rest of the work. As it was impossible to pass an instrument between the tumor and the floor of the nasal cavity, and as the operator was afraid of a hemorrhage from the tumor, he cut the palatine apophysis with Liston's scissors, and divided the veil of the palate in all its length. The bone being so isolated, came away by simple traction. It was then found that the tumor had no adherence with the maxillary bone. To avoid hemorrhage, the fingers were passed between the tumor and the superior part of the nasal cavity, and the tumor was extirpated without difficulty. The internal maxillary artery was injured, but tied at once.

In a few days there was almost a complete reunion of the wound, and the patient was well. But saliva came out by a part of the wound which had not healed, and it was only after five or six cauterizations that a complete cure was obtained.

2. *Adenoid tumors.*—M. Goyraud has sent to the *Société de*

Chirurgie the report of a case of tumor of the breast, which, according to his examination, proves that Sebert, and many other surgeons are right against Velpeau, in admitting that adenoid tumors may be a simple hypertrophy of the lobules of the mammary gland. M. Goyraud insists also on the possibility of finding adenoid tumors encysted.

3. *Frequency and facility of fracture of the thigh in paraplegia.*—Laney has mentiond three cases observed by himself, in a short time, and in which the thigh bone has been fractured, by a muscular contraction, in paraplegic patients.—*Société de Chirurgie, Gaz. des Hôpitaux*, 1857, p. 596.

4. *Treatment of considerable suppurations.*—Prof. J. Cloquet has presented to the *Académie des Sciences*, a paper of M. Ozanam on this subject. The author related several cases to prove that the most extensive suppurations may be cured, in a few weeks, by the internal use of of an infusion of from a drachm to an ounce of *camomile* (anthemis nobilis), in a day. Besides, local applications of the same infusion may prove useful.—*Comptes Rendus*, Dec. 1857.

5. *Tracheotomy in croup.*—A new paper on this subject has been published by Chassaignac (*Gaz. Médic.* 1857, p. 767). He relates a case, and then goes on to show that the reasons for which the operation is not more frequently made are. 1. A doubt as to the chances of success. Many physicians think that the cure might have been obtained without the operation in many cases of success. Chassaignac tries to show how erroneous this view is. 2. The defective manner in which the operation is frequently performed. 3. The delay of the operation. 4. The insufficiency, of medical care after the operation. 5. The numerous causes of death which exist after the operation. Chassaignac tries to prove that death may be due. 1. To the stupor and debility succeeding to the operation ; this cause of death may be avoided. 2. By a hemorrhage, sufficient quickly to kill a child in a state of cyanosis; this takes place particularly when the incision is too long. 3. By progressive asphyxia due to the small size of the canule or its obstruction. 4. To the getting out of the tube and to the asphyxia which takes place before it is replaced. 5. To the lobular pneumonia, which is frequent only because the operation is too much delayed. 6. To the asphyxia due to the penetration of the blood into the bronchi. This takes place particularly when the incision is too large. However, when there is asphyxia due to the presence of blood, then it is necessary to open widely. 7. To the purulent infection. 8. To the diphthiritis of the wound of the operation. This is also a consequence only of a too large incision. 6. To the gangrenous eschares and to the suppurative denudation of the tracheal cartilages.

M. Chassaignac has forgotten a cause of death which has been pointed out by some surgeons, and which my experiments on animals confirm: it is the inspiration of *ocld air.*

6. *Elephantiasis Araborum.*—This affection, so common in warm climates, has been carefully studied by M. Mazaé Azéma, of the Isle of Reunion (*Gaz. Médic.* Nos. 2 and 3, 1858). The descriptions of

this able physician are perfectly exact, and they agree completely with the numerous facts that we have observed in an island of the neighborhood of the Reunion. We think that the following conclusions arrived at, by M. Azéma, are quite right: 1. The *elephantiasis Arabo-rum* is a disease of the lymphatic system. 2. It consists in *frequently* repeated inflammations of the lymphatic vessels and their glands. 3. The inflammation begins in the lymph vessels and then extends to the ganglions; the extravasation of lymph in the neighboring tissues is the consequence of the successive inflammations. 4. The causes of this affection are the influence of the climate.

7. *Morbid relations between the testicle and the throat.*—M. Verneuil relates two cases to show the existence of these relations. In two boys who had an inflammation of the throat, there had been suddenly an effusion of liquid in the *tunica vaginalis*, and in one of them the testicle has become atrophied.—*Archives de Médec.* Oct. 1857.

8. *Polypi of the rectum.*—An interesting inaugural dissertation has been presented to the Paris Faculty, by M. Mercier, on this subject (29th Dec. 1857). It gives a complete history of the disease, according to the notions of the French surgeons. We will leave aside all that relates to the pathological anatomy, symptoms, diagnosis, etc., and only examine what concerns the treatment. As regards the adults, M. Mercier states that the treatment must be chirurgical, although M. Ploviez has seen a case of expulsion of a polypus after a medicine had been taken. Five methods have been proposed: 1. Cauterisation. 2. Ligature. 3. Excision. 4. Ligature and excision. 5. Application of Chassaignac's *écraseur*.

a. Cauterization.—It may be made with caustics or the actual cautery. Loeffer has cured a patient by employing caustics after having been obliged to give up the ligature. But cauterization is rarely employed, because it is difficult (says the author), to limit the application to the pedicle of the polypus. Amussat overcame the difficulty by making use of a kind of forceps, the two branches of which had a gutter on their inside faces. Caustics were put in the gutters and the pedicle was at the same time crushed and cauterized. One single application was sufficient when the pedicle was not too large. The author does not speak of the application of heat by means of galvanism. Dr. Midledorff, of Breslau, has treated, successfully several cases, by this mode of cauterisation.

b. Ligature.—This has often been employed with success, but is sometimes extremly painful, and several times it has been necessary to take it away on account of the excess of pain. To prevent the falling off of the ligature, it is well to place a second upon the first. Roux and Chassaignac have made use of partial ligatures; they pass two threads through the pedicle, and then tie the threads one on one side and the other on the other side.

c. Excision.—When the polypus is not too vascular, excision is the best mode of treatment. This may be done with the knife or scissors. But in some cases there has been a very dangerous hemorrhage. M. Serves and M. Manec have seen such cases. Jobert and Nélaton have

employed excision in cases in which the pedicle was extremely vascular; but both of them operated very slowly, cutting layer after layer, and at every time they had divided a large blood vessel they tied it. They succeeded in avoiding hemorrhage.

d. Ligature and excision.—The ligature, of course, is first applied and then the excision is made, but the ligature sometimes slips and there is the same danger of hemorrhage as after excision alone.

e. Linear écrasement—Chassaignac has seen the extirpation of a polypus with his instrument, the *écraseur*, without the loss of a drop of blood. Although this method may be very good, Broca has seen hemorrhage after its application.

In children, excision is the best means, because there is much less danger of hemorrhage. M. Bourgeois makes use of nails to cut the pedicle. If there is a notable loss of blood, ice usually will stop it; if it does not, charpie with perchloride of iron will succeed in most of the cases.

IV. Forensic Medicine.—M. Collongues, in a note presented to the *Académie des Sciences* (*Comptes Rendus*, 21st Dec., 1857, p. 1048), points out the usefulness of knowing whether there is a peculiar sound or not to be found if death exists. He has already announced that during life there is in all the parts of the body a peculiar sound, which may be heard easily by the application of the ear, or with the help of a very small stethoscope. This sound disappears after death, but not immediately. It may last five, ten, and even fifteen hours after the last beating of the heart. It disappears gradually, and according to the author, its complete absence from all the superficial parts of the body, is a positive sign of death. In an amputated limb it persists a few minutes.

V. Chemistry applied to Diagnosis.—Becquerel has presented a paper to the *Acad. des Sciences*, concerning the question of the presence of albumen in normal urine. Our readers may remember that, in our preceding letter (see the January number of this journal) we spoke of the singular assertions of M. Gigon, who thought he had discovered albumen in normal urine, and that chloroform could precipitate $\frac{1}{1000}$ of this principle in urine. We, then, said, that if this were true, it was strange that inhaled chloroform did not coagulate the albumen of the blood.

Becquerel and Barreswil have tried to find out if chloroform can be a test for albumen. Their conclusions are :

1st, That chloroform in a small quantity, and agitated with several liquids, gives an emulsion of a characteristic white, resembling coagulated albumen.

2d, The liquids which give this emulsion are a mixture of water with either albumen, or Arabic gum, gelatin, starch, mucus, and, probably, the organic substance still undetermined which exists in urine.

3d, All the varieties of wine not containing albumen, with very few exceptions, give a somewhat abundant emulsion when agitated with chloroform. These emulsions are due to the mucus and the organic substances in solution in urine.

4th, The normal urine that gives with chloroform an emulsion, does not furnish the least sign of the presence of albumen with the most sensitive reagents. Two of these, which are able to detect the presence of $\frac{1}{20,000}$ of albumen, viz.: a recent mixture of acetic acid and a concentrated solution of the yellow prussiate of potash, and the pyrophoric acid, have never shown the least appearance of albumen in healthy urine.

5th, Albuminous urine gives a precipitate with chloroform, but a notable part of the albumen remains in solution, so that chloroform is an unfaithful test for albumen.

VI. TRANSFUSION OF BLOOD.—I have communicated several papers on this subject to the *Académie des Sciences* (see *Comptes Rendus*, 30th Nov. 1857, p. 925), to the *Société de Biologie*, and to the *Cercle des Sciences*. It is known that Blundell had found that a dog, bled almost to death, can recover, even if blood of a mammal of another species, be transfused into its veins; but that after a few days death always comes; while the blood of another dog being employed for the transfusion, may reproduce a lasting life.

Messrs. Prevost and Dumas declare also that mammals cannot be recalled permanently to life after a great loss of blood, if transfusion be made with blood of mammals of a species different from theirs. They state also, that the blood of animals transfused in the veins of birds, and *vice versâ*, produces almost immediate death, after having caused violent convulsions. M. Rayer affirms, also, that the blood of man kills rabbits, after having produced convulsions. Dieffenbach has sometimes seen animals recover after transfusion of blood of animals of other species, but never when they were in a state of apparent death after a considerable loss of blood. Bischoff also has never succeeded in restoring to life mammals that had lost a great deal of blood, in transfusing blood of birds in their veins.

An important fact, found by Bischoff, should, however, have opened the way to more successful results in transfusion. He ascertained that the blood of mammals can be injected in the veins of birds, without killing them, while the venous blood causes rapid death. I have found that venous and arterial blood do not differ one from the other, except on account of the different quantities of carbonic acid and oxygen they contain. Both may kill, if they are rich in carbonic acid; both may not have any injurious influence if they contain a great quantity of oxygen. Numerous experiments have led me to the following conclusions:

1st, That arterial or venous blood from an animal of any one of the four classes of vertebrata, containing oxygen in a sufficient quantity to be scarlet, may be injected, without danger, into the veins of a vertebrated animal of any one of the four classes, provided that the amount of injected blood be not too considerable.

2d, That arterial and venous blood of any vertebrated animal, being sufficiently rich in carbonic acid to be almost black, cannot be injected into the veins of a warm-blooded animal, without producing phenomena of asphyxia, and most frequently death, after violent convulsions,

provided that the quantity of injected blood be not below one-five hundredth of the weight of the animal, and also that the injection be not made too slowly.

The reasons for which Blundell, Bischoff, and others have failed to restore a lasting life after the transfusion of blood of an animal of a species different from that of the transfused one, are: 1st, That the blood employed was not fresh; 2d, that it was in too large a quantity; 3d, that it was injected too quickly; 4th, that it was too rich in carbonic acid, and too poor in oxygen. The greatest causes of failure were this last one, and after it the quantity of blood.

From my experiments I have arrived at the conclusion, that there is no danger in employing the blood of dogs, cats, or other mammals in transfusion in man. Besides, I have ascertained, after Dieffenbach and others, that defibrinated blood is as good as blood containing fibrin. As regards the quantity of blood, I think that four or five ounces would be as much as can be needed for an adult man or woman. It is not necessary to warm the blood, but it may be useful to do it in some cases. The blood to be transfused, either that of man or of a mammal, should be received in a large open vase, and whipped at once, then passed through a thick cloth. If it is not injected at once, it must be either whipped again, or, at least, agitated, to be charged with oxygen just before transfusion, which can be performed with any kind of syringe. The injection must be extremely slow, and if after the injection of two or three ounces, there is a great increase in the respiratory movements, it is well to stop for ten or fifteen minutes before finishing the transfusion.

PARIS, *February*, 1858.

INFANTILE PATHOLOGY AND THERAPEUTICS.

Report on the Progress of Infantile Pathology and Therapeutics; prepared for the NEW YORK JOURNAL OF MEDICINE. By A. JACOBI, M.D., Physician to the Children's Department of the (Canal street) German Dispensary of the City of New York.

I.—GENERAL DISEASES.

1. *Extractum fellis bovini* against anæmia Prof. Mauthner has long since recommended the extractum fellis bovini against anæmia in children. He is of the opinion that this remedy operates by being easily resorbed and readily assimilated to the normal blood. Besides, he never found it in the stomach of children, after they had taken it up to the last days of life, and as to its digestibility the experiments made on animals by him and Prof. Ragsky proved satisfactory.—*Journal für Kinderkrankheiten*, 1857, Sept. and Oct. p. 248.

II.—DISEASES OF THE DIGESTIVE ORGANS.

1. *Diphtherite, or malignant sore-throat.*—Benjamin Godfrey reports four cases of this disease, and believes the order, in which its symptoms generally occur, to be this: Shivering; intense depression; dryness and

tingling of the throat, nares and ears; external swelling of the glands; a whitish spot on the mucous membrane of the tonsil, gradual deepening in color as the disease progresses; dysphagia and dyspnœa; dilated pupil; impending asphyxia, and death. The disease appears to Dr. Godfrey to be confined to the mucous membrane, neither touching the muscular nor glandular structure. The glandular enlargement is due to sympathetic irritation. Its diagnostic difference from scarlet fever consists in, 1. The absence of all fever, 2. Absence of all rash, 3. Papillæ of the tongue not enlarged, 4. No desquamation of the cuticle after the disease passes off. In cynanche tonsillaris the abcess forms within the tonsil, and bursts its way out, but in diphtherite, the morbid change commences on the surface of the mucous membrane, and is confined solely to that covering. The extreme and rapid depression is only equalled by the depression of malignant scarlet-fever, or the collapse of Asiatic Cholera. Each patient that died appeared to sink from exhaustion and partial asphyxia. The main point in the treatment is to support the patient's powers, by stimulants and tonics; and to check the inroad of the disease by the application of the strong mineral acids. Tracheotomy is unsafe, because the depression of the patient's powers is far greater than the dyspnœa, and the depression, while appearing before the dyspnœa, cannot result from the blood being improperly aërated. Dilatation of the pupils existed as a marked symptom in every case. Dr. Godfrey believes the tincture of sesquichloride of iron the best remedy.—*London Lancet, Amer. ed.* Jan. p. 50.

2. *Death from over-feeding.*—A female child, æt. 3 months, who had been unwell for several days, died pretty suddenly. It was ascertained that, in addition to the breast-milk, three cups of arrow-root and some milk and water had been given to the child, and death was attributed to the fact of the stomach being unable to relieve itself of the mass.—*Verdict: "Died from natural causes."*—*London Lancet, Amer. ed.* Jan. p. 102.

3. *Case of congenital hypertrophy of the tongue, and amputation.*—This case was reported by Dr. Morrogh, of New Brunswick, N. J., and occurred in a girl, seven years old. At birth the hypertrophy was moderate, but it had increased more or less rapidly till reaching its present dimensions; the tongue was found protruding two inches outside the jaws. It measured two inches across the teeth, and was of a corresponding thickness. The papillæ of the protruded portion were enlarged, and the mucous membrane was thickened and indurated. On the under surface was a ragged, hard ulcer, produced by the pressure of the teeth. These were pressed forward considerably out of their natural position. The horizontal rami of the inferior maxilla were curved downwards, so that, when the molar teeth came in contact, a space of about one inch remained between the upper and lower incisors. By this the girl was enabled to masticate and swallow without difficulty. After the example of Dr. Harris, of Philadelphia, who, after endeavoring to amputate in a similar case by ligature, in 1829, performed the same operation, in 1835, by a double flap incision, checking the hemorrhage by ligature, Dr. Morrogh operated by removing a V

shaped portion from the anterior middle part of the tongue, and ligating the ranine artery. Although copious hemorrhages followed, the patient went home well, on the sixth day after the operation.—*The Medical and Surgical Reporter*, Jan. 1858.

4. *Imperforate anus and absence of the rectum.*—Dr. G. H. Gay presented a paper on a case of atresia ani to the *Boston Society for Medical Improvement*, in which no autopsy was permitted. As there was meconium evidently mixed with urine, the intestine, whether it was the lower part of the colon or the commencement of the rectum, in all probability terminated at, and communicated with, the upper posterior part of the bladder, and was out of the reach of any operative procedure, which was, however, tried. The child died five days after birth. A highly interesting and useful part of the paper referred to, is a collection of a great number of similar cases, reported by older and contemporary surgeons, under the head of: imperforate anus; imperforate rectum; imperforate anus, with an abnormal opening of the rectum; anus natural, and the rectum with an abnormal opening and rectum; imperforate anus; imperforate anus, with an absence of the rectum; imperforate anus, with an absence of the rectum and colon; abnormal anus. The care with which the paper is written, and the attention given to the subject and its literature, is deserving of the highest praise and the special study of our readers.—*Bost. Med. and Surg. Jour.* 1857. Dec. 17th.

5. *The effects of cathartics in imperforate anus.*—James Jones, of New Orleans, says, that trismus nascentium is so frequent in the South, and reliance on the prophylactic influence of purgation is so universal, that it would be almost useless to repudiate the inevitable and nauseating draughts, in which the first efforts of deglutition are invariably exercised. He reports some unsuccessful cases of imperforate anus, with the object, in the first place, to demonstrate that in obstructions of the bowels from malformations, as from other causes, cathartics are both useless and injurious; and in the second, to establish not only the inadmissibility of all food in similar cases, but this interesting fact also, that, under absolute diet, life may be protracted for a number of days after birth, without the sudden and alarming prostration we are generally led to anticipate. In proof thereof he reports the case of two infants, who were born each with an imperforate anus and to whom no food was given. One of them died on the eighth day, the other one on the thirteenth day, after birth.—*New Orleans Med. and Sur. Jour.* Jan. 1858.

6. *Pepsine.*—After learning the high recommendations bestowed on the pepsine as a stomachic remedy, I have given it a fair trial in several cases, but entirely failed. Professor Mauthner does not seem to have succeeded any better; he confesses that he feels unable to share in the general enthusiasm, for the majority of his little patients suffering from mesaraic atrophy, perished just as well with pepsine as without it; and in no small number of cases he found the medicament unresorbed in the stomach. This is not unnatural, because in the so-called dyspepsia of small children it is, on the average, not the

pepsine that is wanting, but an abnormal state of the resorbing gastric follicles, which causes inanition in spite of any abundance of food. Besides, it is not at all certain, not even probable, that the pepsine of herbivorous animals and of man are of the same chemical composition and physiological effect. At all events the assumption is more than possible, that the pepsine used for medicinal purposes, is heterogeneous to the human digestive organs.—*Journal für Kinderkrankheiten*, 1857, Sept. and Oct., p. 247.

III. RESPIRATORY ORGANS.

1. *Imperfect respiration in an infant—Artificial remedy—Recovery.*—Such is the head of a short article written by Dr. Heard, of Galveston, Texas, in which he reports a very simple case of very simple *atelectasis pulmonum* in a new-born child. On the second day, he "felt satisfied that the lungs were at fault," and therefore he "determined to resort to artificial respiration." After six or seven respirations, he saw entire relief of all the distressing symptoms. Finally the author learns "from Dr. Stokes' work on the Chest, that there are some very sensible remarks by Dr. Joerg on this subject," meaning a book published twenty-three years ago on fœtal lungs in the new-born child.* We venture to say that a chapter on atelectasis pulmonum can be found in any manual on diseases of children, written in the last twenty years.—*New Orleans Med. News and Hosp. Gaz.* January, 1858.

2. *Tuberculosis in a new-born child.*—Oscar Heyfelder, in his book "*On the Infancy of Man*," reports the case of an infant, who having inherited the disease from a consumptive father, was born with general tuberculosis manifestly developed.—*Die Kindheit des Menschen. Ein Beitrag zur Anthropologie und Psychologie.* Erlangen, 1857. p. 34.

3. *Tuberculosis pulmonum in a new-born child.*—In order to show the extreme difficulty of diagnosis in some cases of infantile disease, Prof. Mauthner reports the case of a child who came under his care, when four weeks old, and appeared to suffer, according to the present symptoms, from entero-colitis. There was no cough during life, and the child took the breast greedily until the last. The post-mortem examination gave the following results: both of the pleuræ show groups of miliary tubercles; both of the lungs are voluminous, emphysematous on their anterior side; on the left, some places with manifest interlobular emphysema. Numberless miliary tubercles are found to be spread through the parenchyma, in the middle and lower lobes several infiltrations, beginning to suppurate in their centres. The bronchial glands, and even a part of the thymus, prove to be tuberculous. Next to the left main branch of the bronchi there are two caverns of tuberculous bronchial glands, opening in the bronchus. The heart is contracted, firm, without contents. In the stomach, in which nothing is contained, there are two tuberculous ulcers, and several follicles are found to be infiltrated with tubercles. The mesenteric glands are small, tuberculous; the mucous membrane in the whole colon of a grey color; the

* E. JOERG: *Die Fœtuslunge im gebornen Kinde.* Grimma, 1835.

intestinal follicles of a dark color, some of them ulcerated; in the region of the ileo-cœcal valve, the glands of Peyer pale, ulcerated; the intestines generally pale, thin, full of yellow mucous fæces. Reins and bladder are hyperæmic. It is evident in this case that the continual vomiting and diarrhœa, during life, are satisfactorily explained by the abnormal state of the stomach and intestines.—*Journal für Kinderkrankheiten*, 1857, Sept. and Oct., p. 246.

4. *Tuberculosis thymi.*—Dr. Abelin, of Stockholm, publishes the following interesting case: "A child, of three months of age, began to suffer from a dry cough and frequent respirations. After the use of vin. ipec. and emul. tereb., it got better. But four weeks later it began anew to cough; hoarseness, mucous rhonchi, and sharp and loud respiration followed, and dyspnœa increased for the next fortnight; then the child died. Post-mortem examination: some congestion of the brain and its membranes; the thymus is intimately connected with the sternum, and has to be separated by means of the knife; it is extraordinarily large and hard, particularly so the right lobe, which is much swollen, and extends down to the diaphragm. It contains a fluctuating tumor of the size of a walnut, containing a greenish-yellow pus. On the walls of this tumor, tuberculous yellow masses were found, and a tubercle as large as a walnut, besides a smaller one, were found in the same right lobe of the gland. Smaller tubercles were found to be contained in the left lobe. The bronchial glands were infiltrated with tubercles; so were the lungs. In no other organ were tubercles found. In another case no symptoms, while the child was alive, could be perceived, except a hollow cough and sharp respiration; the child died of acute pleuro-pneumonia. Besides the products of the inflammation, tubercles were found in the lungs, and the thymus was large, hard, and considerably infiltrated with a yellow, solid, tuberculous mass.—*Journal für Kinderkrankheiten*, 1857, Sept. and Oct., p. 301.

5. *Pulmonary and bronchial tuberculosis.*—Every physician acquainted with the methods of physical exploration—and we readily believe every one is now-a-days—ought to know, that tuberculosis is not at all uncommon in children. The symptoms are generally known; the prognosis not so unfavorable as in adults. This statement is affirmed by Dr. J. Schwartz, of Berlin, who reports to have repeatedly succeeded, by careful regulations as to their diet, and some well-adapted pharmaceutical remedies, in restoring to health children of from two to five years, who were already considerably emaciated, and subject to hectic fever. Against the attack of hectic fever he warmly recommended, as Skoda did before him, the sulphate of quinine, with small doses of Dover's powder. Besides, he gives cod-liver oil and amara, which he says are too little thought of in our time, and have been too readily forgotten.—*Journal für Kinderkrankheiten*, 1857, Sept. and Oct., p. 258.

6. *Deaths by pneumonia.*—From a very elaborate and useful article, written by W. Ziemssen, on the geographical extension of pneumonia, we take the following:—The percentage of deaths by pneumonia, in

Germany, in proportion to the whole number of deaths in general, amounts in private practice to 8.86; in the hospitals of Berlin, Vienna, Neufchatel, and Paris, to 6.29; amongst the whole population of Geneva, to 5.18; in a number of large hospitals where children and persons in old age are not admitted, to 5.40; in the children's hospitals of Stockholm, Vienna and Frankfort, to 10.07.

Trébuchet, of Paris, gives the following ratio of deaths by pneumonia. Of 1,000 persons of each sex, living at the ages denominated below, the following ratio died by pneumonia, at Paris :

Age.	Males.	Females.	Age.	Males.	Females.	Age.	Males.	Females.
0– 4	16.0	13.3	30–40	1.0	1.0	70–80	18.5	16.1
4–10	1.2	1.1	40–50	2.1	1.5	80–90	23.1	31.1
10–20	0.4	1.2	50–60	4.7	2.7	90–100	74.9	66.5
20–30	0.4	0.7	60–70	8.8	8.6			

Monatsblatt für Medicinische Statistik und öffentliche Gesundheitspflege, No. 8, 1857. *Beilage zur deutschen Klinik.*

7. *On Indications and treatment in Croup.*—According to Luszinsky, of Vienna, there are four indications to be followed in croup, which are—1st, to alter the peculiar crasis of the blood. This indication requires antiplastics, of which hepar sulphuris, sulphate of copper, and tartar emetic are either too uncertain, or too dangerous, because repeated vomiting would be injurious by congestion of the brain, and mercury, which readily injures by producing diarrhœa, salivation, and general mercurialism. Better than all of them, are alkalies, which Luszinsky seems to have recommended prior to Lemaire and Marechal, of Paris. The hydrate of potash or soda is most antiplastic, but they are not easily tolerated ; the bicarbonate is the most digestible, but the abundance of carbonic acid in the chemical composition of the bicarbonate of potash or soda diminishes the medicinal effects of the alkalies ; therefore he gives the carbonate of potash or soda, from one half of a drachm to two drachms every day. 2nd—To prevent the localization of the inflammation in the larynx. This indication requires no bleeding, nor leeches, but, in the first stages of the disease, cold applied to the larynx, and large blistering plasters, kept in suppuration for some days. 3rd—To remove the spasm of the larynx by narcotics. 4th—To destroy, or remove the pseudo-membranes, which have been formed. The best caustic in these cases is a solution of from four to eight grains of nitrate of silver in an ounce of water, which is to be applied by a brush. Emetics are necessary, where pseudo-membranes are loose, or beginning to loosen, in the larynx or bronchi.—*Journal für Kinderkrankheiten*, 1857, Sept. and Oct., p. 155.

IV.—CIRCULATORY ORGANS.

1. *Diseases of the heart.*—Diseases of the heart in the first two years of life are usually deemed excessively rare. Amongst the number of cases reported by West, Rilliet and Barthez, Bednar, and many others, there are only a very few, which occurred at this early age. There is no doubt, that the diagnosis of organic alterations of the structure of

the heart in very young children is sometimes exceedingly difficult; for the impatience, troublesomeness, and screaming of the patients, the frequency of the action of the heart, and the small size of the organ, are very important obstacles. Besides, it must be held in view, that many diagnostic signs are not of the same value in very young children, and in adults. Thus West is of the opinion, that some sounds heard in general anæmia, cannot be referred to the same general cause in the infantile organism, but are to be attributed to some pathological alteration in the structure. Furthermore, it is to be borne in mind, that there are many abnormities, which, because they once lead to an early death, are heard only in infancy, and aggravate an exact diagnosis because of their multifarious origin. The largeness of the fœtal apertures, the presence of extensive atelectasis pulmonum, which will stop circulation in the pulmonary arteries, and force the blood into the left heart, anomalies in the origin and course of the great blood-vessels are amongst their number. Even the ictus cordis may be misunderstood, and the results of percussion unavailing, because of local atelectasis, which is also, sometimes, a frequent reason of mistakes in explaining the facts found in post-mortem examinations. Sometimes the heart, after the thorax is opened, is visible in an uncommonly large circumference, whenever the lungs are reduced to a smaller volume, is filled with dark blood, and pericardium and thymus are remarkably cyanotic, not because of a supposed disease of the heart, but for no other reason but atelectasis pulmonum. These facts are collected, in a well-written article, by Carl Gebhardt, and illustrated by a series of cases. Nevertheless, in his opinion, diseases of the heart, in very young children, are not rare at all. There are many instances of slight thickening of the auriculo-ventricular valves, small hemorrhages in the valvular tissue, small red fibrinous depositions on the valves, and extensive genuine degenerations of the heart, with hypertrophy and its consecutive symptoms. They are very frequently found in infants suffering from, and perishing by, constitutional diseases, as rachitis, syphilis, etc.; less so in well developed infants, who died by acute diseases.—*Deutsche Klinik*, 1857, No. 11.

2. *Persistent ductus arteriosus Botalli.*—This abnormity was observed in a child of three months of age. The heart was only about one-third of the size of a healthy heart from a child of the same age. Foramen ovale open ; the ductus arteriosus perfectly pervious, having at its junction with the aorta a diameter of three millimetres.—*London Lancet*, Am. ed., Jan., p. 59.

3. *Congenital nævus on the chest of an infant.*—A large nævus, which occupied the entire left mammary region of a healthy infant, was observed at St. George's Hospital, London. It was about five inches long, transversely, and three and a-half from above downwards, its greatest point of elevation being over half an inch. It was congenital, had not increased much in size, and was thick and rugose in surface. It was treated by passing a number of threads from above downwards, tying their ends so as to completely strangulate portions of it, which was, however, permanently done by passing long pins in its two directions, and winding a ligature around the whole.

Another child had a nævus similarly treated. It was the size of a crown-piece, and was situated on the calf of his left leg.—*London Lancet*, Am. ed., Jan., p. 87.

V.—UROPOIETIC AND SEXUAL ORGANS.

1. *Lithotomy in a rickety child, with rickety pelvis.*—A child of twenty-one months of age had been subject to stone no doubt for some time; possibly it was born with it. Its pelvis was in a deformed state from rickets, with a considerable flattening from before backwards, so that the pubis approached the promontory of the sacrum; the bladder was thus not only high up, but difficult to reach with the finger. The stone was extracted by Mr. Erichsen, at University College Hospital, London, and was of an oblong figure, nearly an inch in length, and proportionately thick. The case progressed favorably after the operation.—*London Lancet* (Am. ed.,) Jan., p. 87.

2. *Stone in the bladder.*—Two cases of stone in the bladder of female children, each five years and a half old, came under the care of Mr. Hillman in Westminster Hospital, London. In the first case a conical sponge tent was introduced into the whole length of the urethra, and retained for five hours, for the purpose of slowly dilating that canal. Chloroform having been administered, the stone was withdrawn, after an incision had been made in the direction directly upwards towards the symphysis pubis, because of the size of the stone. This was of an ovoid form, measuring fully three inches in its longest, and two inches and three-quarters in its shortest circumference. It consisted of laminated urate of ammonia. Twenty-five days after the operation, the child was discharged, perfectly free from all suffering. In the second case, chloroform having been administered, a small, three-branched urethra-dilator was introduced, and the canal thereby dilated in the course of five minutes sufficiently to allow of the introduction of a pair of slender, straight lithotomy forceps into the bladder. No incision was necessary. The stone was of an ovoid form, thickly studded externally with small, sharp prominences. It measured rather more than two inches in its longest circumference, and nearly one inch and three-quarters in its shortest circumference; it was composed of oxalate of lime. The child was discharged thirty-four days after the operation. *London Lancet*, Am. ed., Jan., p. 70.

3. *Addison's disease in new-born children.*—In a session of the Society for Scientific Medicine at Berlin, R. Virchow gave a critical report, together with some new facts and cases, on Addison's book on the constitutional and local effects of disease of the suprarenal capsules. He added some remarks on a disease described already by Rayer, viz.: apoplectic extravasations in the suprarenal capsules of new-born children, with a dark red color of the skin, and reported a case, observed by himself, of remarkably extensive cyanosis, which was complicated with empyena and apoplexy of the suprarenal capsules.—*Deutsche Klinik*, 1857, No. 45.

VI.—NERVOUS SYSTEM.

1. *Double sub-pericranial Cephalæmatoma.*—A cephalæmatoma on each side of the top of the head came under the observation of Dr.

Gibb, of London. The child had been born after a labor of a quarter of an hour, without assistance of any kind. The swelling on the left side was the largest, and fully the size of a hen's egg. It did not communicate with the other one, and pressure produced no effect on the child, who was in every respect healthy. The tumors were found to be encircled apparently by an osseous ridge, which seemed elevated with the tumor as it were, lying in a sort of depression in the bone. The first was completely absorbed in thirty-nine days, and the second in fifty days.—*London Lancet*, Jan., p. 63.

2. *Hydrocephaloid disease.*—Dr. Ch. W. Graham reports the case of a little girl, two years and a half old. There was no pain on pressure being applied to the region of the stomach and bowels, though there was the most urgent desire for cold water, which was immediately rejected. The skin was cool ; the pulse 88, soft, and moderately full ; the tongue thickly coated to the point, and red round the edges. The bowels were confined ; there was constant picking at the nose and angles of the mouth, and the child awoke suddenly screaming from short sleeps ; the countenance was occasionally flushed, the urine high-colored and scanty. There was, on the next day, strabismus, dilatation of the pupils, grinding of the teeth ; the pulse was small, and very feeble; the face pale and collapsed. The child had suffered two or three convulsive seizures. In fact, all the usual cerebral symptoms, met with in the two opposite states of overfullness and of deficiency of blood, were found. The treatment consisted of some doses of castor oil, repeated enemata, and the strongest stimulants given in short intervals. The child was entirely well after four days.—*British Medical Journal*, Jan., 9th, 1858. We have seen many cases, in which inanition was the only cause of severe cerebral symptoms ; but we do not find, in the history of the case before us, the least proof of its belonging to the kind of cases referred to. Besides, it is well known, that convulsions and other cerebral symptoms are not rare occurrences, from no other cause but continuous obstipation of the bowels, with or without gastric catarrhus, flatulency, etc. For all these cases enemata and purgatives are the best possible remedies, although the consecutive cerebral symptoms appear to be of the extreme severity, and show their wholesome effect in a short time. In the case reported by Dr. Graham, we do not know, indeed, if his diagnosis was the correct one, although he affirms that, by the writings of Abercrombie, Marshall Hall, Gooch, and Evanson and Mannsell, he has learned more about these things than " the general practitioner."

3. *Recovery of a young infant after taking nearly two grains of opium.* —This case occurred in an infant, only six days old, and is reported by Dr. Chamberlain, of Northampton, Mass. When he saw the patient, two hours after the occurrence, the respiratory function was suspended, the face and lips were livid, the pupils contracted to a point, and it was not only perfectly comatose, but in a state of complete asphyxia. Artificial respiration was resorted to for three hours; energetic rubefacients applied to the spine and extremities, dry heat to the rest of the cutaneous surface, volatile ammonia to different portions of the body,

and several enemata of brandy and turpentine given. At the close of the third hour, the respirations were pretty regular and uninterrupted, and repeated about twice per minute. But it was not until ten hours had elapsed after the narcotic had been taken, that anything could be introduced into the child per vias naturales. In twenty-four hours, scarcely a trace of the effects of the poison was observable.—*Bost. Med. and Sur. Jour.* Dec. 3d, 1857.

4. *Treatment of infantile hydrocephalus by elastic pressure.*—Five and thirty years ago it was known to Sir Gilbert Blane, that it was possible to get rid of encephaloid effusion by mechanical pressure, the means employed being bandages and adhesive strapping. Richard Phillips, in two cases he reports, constructed an elastic hoop, or fillet, with strong india-rubber webbing, two inches wide, with which to encircle the head. Having made the fillet purposely too small in the girt, he was enabled, by stretching it with both hands from within, so to adjust it as to exercise a considerable amount of well regulated pressure round the distended cranium. Some days after adjusting the elastic fillet, the bands became lose by the cranial bones having approximated each other. There was also less tension of the scalp. After a short time the fillet had to be readjusted again, until the cranial bones touched each other. A cure was effected in both cases. Naturally, the earliest possible age, and where the case is not of long standing, are the conditions most favorable to remove, by pressure, the atonic, passive condition of the meningeal vessels, resulting from absence of that resisting medium offered by the healthy, normal calvarium. Besides, the elastic fillet seems to be very much preferable to bandages and adhesive plasters, which would need removing in short intervals, as soon as diminution of bulk begins, not to speak of the removal of a number of adhesive straps from the hairy scalp.—*London Lancet, Amer. ed.* Jan. p. 47.

5. *Spina bifida submitted to operation.*—About three years ago, Paget attempted to practice obliteration at the neck of a spina bifida of very large size, by passing around it a ligature; the child died before the ligature had cut its way. Two cases were treated at University College Hospital, by Mr. Queen and Mr. Erichsen, and both ended fatally after the operations. In a fourth, under the care of Mr. Hutchinson, a simple puncture and withdrawal of fluid was followed by fatal arachnitis of the cord, pus having been secreted in the sac. Another child, one month old, and quite free from any cerebral affection, was operated upon by Mr. Borlase Childs, at the Metropolitan Free Hospital; the case has conformed to the general rule as to result; it was operated upon by pushing the internal sac down in the direction of the spine, cutting a part of the skin out and uniting the margin of the wound on hare-lip pins. The child remained very restless and ill after the operation and died on the following morning.—*Med. Times and Gaz.* Nov. 28th, 1857.

6. *The diagnosis of meningitis tuberculosa.*—The cerebral symptoms are frequently not sufficient to make the diagnosis of a cerebral disease certain. Particularly the signs of meningitis tuberculosa are such,

that it would be impossible to make an incontestable diagnosis without further elucidation. The diagnosis is generally, by all good authors, considered as certain, if the cerebral symptoms, which, being known to every physician, we need not repeat here, occur in a child with tubercles in the lungs or of tuberculous parents. In this same review there is a case of tubercles in almost every organ where tubercles ever have been met with (III. 3), in which the state of neither of them was ascertained before death. Thus, it appears, that tuberculosis of the lungs may not be found in children who die from meningeal tubercles. This is what Dr. Schwartz lays stress on, adding however, that all his cases occurred in children, who either were tuberculous themselves, or born of parents, in whose families tuberculosis was hereditary.—*Jour. für Kinderkrankheiten,* Sept. and Oct. 1857, p. 260.

III.—SENSORY ORGANS AND ACUTE EXANTHEMS.

1. *Ophthalmia scrophulosa.*—This very common disease is as frequent as it is obstinate. It is not new, what Dr. Schwartz feels obliged to state, that it cannot well be cured without a general antiscrofulous treatment. But his local treatment is not universally known. He applies, several times a day, some drops of a solution of two grains of nitrate of silver to an ounce of water, or has the eyes bathed, many times through the day, with a fomentation of one grain of nitrate of silver to an ounce of water. The photophobia used to disappear a short time after the application had been regularly made. He did not succeed so well with a weak solution of bichloride of mercury.—*Journal für Kinderkrankheiten,* Sept. and Oct. 1857, p. 261.

2. *Furuncles in young children.*—Furuncles are not rarely found in young children, and are, particularly when in the scalp, exceedingly painful. This disease is, according to the experience Prof. Ebert of Berlin, more generally the consequence of a change having been made in the diet, than of uncleanliness, in an infant. Sometimes it is connected with congenital or hereditary syphilis ; in these cases the little ones are remarkably emaciated, and show, besides, maculæ syphiliticæ. He opens the fully developed furuncles by sufficiently large incisions, puts a plaster of sugar of lead and turpentine on the other ones, orders emollient baths, and sometimes, for anæmic, badly fed infants, prescribes tinct. fer. pom. with tinct. rhei vin.—*Journal für Kinderkrankheiten,* Sept. and Oct. 1857, p. 263.

3. *Treament of erysipelas.*—Abelin gives, in simple erysipelas, from four to six drops, several times a day, of solut. chloret. ferr. spir. æth., and applies externally, tinc. iod. and æth. sulph. In the gangrenous erysipelas he uses bark and applies aromatic infusions or lime-water. *Journal für Kinderkrankheiten,* Sept. and Oct. 1857, p. 299.

4. *Temperature of the skin and blood in scarlet-fever.*—C. Hennig succeeded in proving by experiments, that the temperature of the skin, in children suffering from scarlatina, does not exceed the temperature of their blood.—*Jahrbuch für Kinderheilkunde und Physische Erziehung,* 1857, p. 54.

6. *Temperature of the body after vaccination.*—C. Hennig, of Leipsic,

proved by a series of experiments, that the temperature of the body in general increases in the first days after vaccination has been performed, the elevation amounting, in the average, to 0.425° F. The temperature of the skin, too, is found to increase. The primary elevation of the temperature of the skin must not be attributed to the local process, the vaccinated spot proving to decrease remarkably in temperature during the first three days. After this decrease the normal temperature is recovered on the morning of the fifth day. On the fifth day an elevation is beginning, which is the first sign of inflammation. This change of temperature in the wounded part depends—1st, on the consequences of the injury, which is followed by a reaction, although small, in which exact physiological analysis could not but find the commencement of inflammation. The first stage of the stasis is said to consist in the contracting of the adjoining small arteries. This, and the stagnation of the circulation of the blood in the small veins, would be sufficient to explain the diminution of temperature. 2d. On the introduction of the animal poison. This is to be concluded from the difference being far greater after a successful vaccination, than after one which is not successful. The suppurating fever, after the abnormal diminution on the fourth day, begins on the fifth after vaccination, and ceases on the tenth. On the eleventh, the temperature of the blood sinks again below the physiological medium. After a slight elevation on the twelfth and thirteenth day, there is not even a sign of fever or augmented temperature to be found on the fourteenth. On the same day the inflammation round the single pustules has always entirely disappeared. Vaccine fever reaches its height on the eighth day, next to it on the ninth morning. Temperature in the actual vaccine fever is from 1.35 to 2.5° F. above the physiological rule. It is higher, therefore, than in the suppurating stage of vaccination, but less than in the same stage of variola. Generally, vaccine fever may be compared with variolous fever; this, too, showing three principal elevations; the first during the prodromi (from two to four days); the second during suppuration (from the eighth to the eleventh day); the third going along with desiccation (on the twelfth day). But they differ in the following: Variolous fever usually reaches its maximum in the first, vaccine fever in the second effervescence; except variola confluens, in which the fever reaches its utmost height in the second term of elevation; varioloid fever shows the same peculiarities as variolous fever. The artificial opening of the vaccine pustules does not always effect an increase of the general temperature. Menstruation appears to have no particular influence in increasing the temperature of the blood.

Similar results, as to temperature in variolous fever, are those obtained by Bouillaud, Andral, and Roger.—*Jahrbuch für Kinderheilkunde und physische Erziehung*, 1857, p. 44.

VIII.—MOTORY ORGANS.

1. *Malformed Foot.*—Two bifid toes were exhibited to the Pathological Society of London, which had been removed from a child six years of age. There were seven toes on the foot before amputation; or, counting the two bifid toes as four, there were nine. The supernume-

raries were situated at the inner side of the foot, about the normal position of the great toe.—*London Lancet*, Am. ed., Jan. p. 59.

2. *Congenital absence of the latissimus dorsi.*—This deficiency was observed in a young man. Part of the pectoralis major was also absent; and, as a compensation for both deficiencies, the teres major was considerably hypertrophied. The malformation, though causing a great change in the shape of the shoulder, did not cause much impediment to movement; the incomplete arm was, however, weaker than the other.—*London Lancet*, Am. ed., Jan. p. 59.

3. *Congenital torticollis.*—A mild example of wry-neck has been observed at King's College Hospital, London, in a little girl. The deformity existed at birth, and depended upon contraction of the lower part of the sterno-mastoid muscle, which had become attached to the deep fascia of the neck. A cure has been effected by subcutaneously dividing the muscle. There was not a drop of blood lost.—*London Lancet*, Am. ed. Jan. p. 86.

4. *Malum coxæ senile.*—After a careful review of the writings, on this subject, of B. Bell, R. D. Smith, Adams, Colles, Stromeyer, Chelius, Wernher, Ecker, Redfern and others, Karl Ritter gives an accurate and minute pathologico-anatomical and microscopical description of this disease, which he, following the example of Professor Bruns, of Tübingen, prefers to name "chronic deforming inflammation of the joints." On page 32 of his little work he makes the following remarks: "When this disease was first described in Ireland, it was believed to be peculiar to the hip-joint, and to occur only in old persons. Both of these opinions have been repudiated; so much so, that the really most instructive cases of this disease are met with in younger persons, in whom it has had opportunity to spread for a series of years. I have observed a boy, ten years of age, who suffered a long while from this peculiar inflammation in both of his knee-joints; and young men of twenty years of age, laboring under this same disease for many years past, are frequently met with. Nevertheless, the name, 'Malum coxæ senile,' does not appear to me to be much out of the way; for it is true, that the disease uses to be more frequently found in old persons than in young ones. In the former it is particularly the hip-joint which suffers most frequently; at an earlier age there are more cases, where the other joints are affected."—*Karl Ritter, über die chronisch-deformirende Gelenkentzündung.* Gottingen, 1856. 8, 41.*

IX.—NOTICES OF RECENT WORKS.

1. *Die Kindheit des Menschen. Ein Beitrag zur Anthropologie und Psychologie.* Von Dr. Oscar Heyfelder. Erlangen. 1857.

The Infancy of Man. A Contribution to Anthropology and Psychology. By Oscar Heyfelder, M.D., Lecturer at the University of Munich. Pp. 92.

There are, in the literature of every country, a great many works on

* Karl Ritter, *on the chronic deforming inflammation of the joints.* Gottingen. 1856.

the management, physiology, pathology, dietetics of infancy, and infancy in general. But there is none amongst them which contains more genuine truth, more physiological and psychological knowledge and medical experience than the little work we feel bound to recommend to the attention of our readers. To give extracts is scarcely possible; for there is scarcely a page which could be abbreviated without detracting from its value. We very much regret that the majority of our readers are not conversant with the language in which this little work is published. The special subjects treated of are the following: physiological history of infantile life; psychological history of infantile life; hereditariness; influences acting on the fœtus and the suckling; management and education; punishment; punishment by frightening; punishment by confinement; exertion in early age; puberty.

2. *On the more Important Disorders of Females and Children.* By GEORGE ROBERT ROWE, M.D. etc. London: 1857, 12mo., pp. 124.

THIS little book contains, in a short chapter, some remarks on "mesenteric disease," on scarlet fever, and measles, of which, we are sorry to say, not one will prove satisfactory to the scientific reader. By "mesenteric disease" the author not only means torpid abdominal scrofula, but every inflammatory disease of any of the abdominal organs in a scrofulous child. But his terminology is not the most objectionable feature in the whole; his prognosis, which "must be an unfavorable one," is undoubtedly false, because a regular and wholesome diet, sometimes supported by a slight medical treatment, improves the health considerably. As to food, he recommends white fish, forbids animal food, all stimulants, all vegetables, with the exception of mealy potatoes. We must confess, that we follow quite another rule; we think any kind of fish less digestible than "animal food," *i. e.*, beef, veal, mutton; there is nothing we could recommend more confidently than animal food, in torpid abdominal scrofula, and less, than "mealy potatoes," and potatoes in general. The general scientific stand point of the author is a very simple one. Like Hahnemann, who traced every disease back to "psora," our author derives everything from "mesenteric disease;" he attends to the natural restorative powers of digestion only "by removing all crudities in the alimentary canal," and this "must prove the safest and most permanent mode of restoration to health." And, finally, "the predisposing cause of mesenteric disease is the irregular action of the liver upon the mucous membrane of the bowels." After all, it does not appear extraordinary, that the serious affections consequent on scarlet fever, even dropsy, are nothing else than "mesenteric disease." Thus, pathology has become very simple, indeed, for instead of the former legion of diseases, we have for the future only one, the "*mesenteric disease*," the mother of all the others, and the only one, that requires attention. This affection is cured by rhubarb and carbonate of magnesia. In conclusion, we would inform the author, that the quotation from Liebig (p. 123) asserts in very plain words, just the reverse of what it has been called upon to prove.

3. *Arzneimittellehre in ihrer Anwendung auf die Krankheiten des Kindlichen Alters.* By Dr. Joseph Schneller. Wien: 1857, 8vo., pp. 176.

Materia Medica, Applied to the Diseases of the Infantile Age. By Joseph Schneller, M.D. Vienna: 1857, 8vo., pp. 176.

Infantile physiology, pathology, and therapeutics have been acknowledged long ago as separate departments; it is but natural that pharmacology be also, at last, considered under the special view, as to the diseases of children. Although this book has been written in a language, which is not often understood in this country, we cannot but direct the attention of the American profession to its existence, because of the soundness of the general principles, and of the vast amount of special knowledge contained therein. To give many extracts from it in this short review is impossible, because of the great variety of its contents; but we feel bound to repeat, at least, some of the author's general principles on the use of medicaments in infantile diseases. The infantile age is remarkable for the large number of diseases which are prone to disappear of themselves without the help of medicaments; there are a great many others, requiring almost nothing except strict regulations of the diet of the patients. But there is another class, particularly of those diseases, which will show, sometimes, dangerous incidents, sudden alterations, especially in the functions of the nervous system, in which the use of pharmaceutical remedies are found to be positively necessary and useful. Pharmacology and therapeutics cannot be separated from each other, because scientific pharmacology is nothing else than the science of the physiological effects of the single medicaments, whose modifying influences are to be brought to bear upon the pathological alterations of the normal organism or organs. The knowledge, however, of the physiological effect is not sufficient to give a medicament its place; for the effect in curing diseases is to be considered as the main constituent of the definition of what a medicament is. Now, it must be remembered, what has been ascertained by a large experience, viz.: That the effect of medicines is not always alike. There are many diseases, the nature of which is not very well known to us, and which it is as easy, as it is necessary, in the present stage of medical science, to explain by a *genius epidemicus*. This epidemic genius, then, is not only apt to produce, under favorable circumstances, a certain class of diseases, but also to alter and modify the character of a number of other ones; so that, in a time of intermittent fevers, quinine, and in an epidemic of diseases going along with decomposition of the blood, acids, are able to remove diseases which do not show, still, the character of the ones mentioned. Whatever the case may be, the main principle in prescribing medicines ought to be general simplicity; the most appropriate way of using them, with children, is in solution; less so powders, for several reasons, although in many cases this mode of use cannot be avoided. Pills and boli have to be avoided entirely. Sometimes, as is generally known, medicaments destined to work on the system of very young children, have to be taken

by the mothers or nurses. As to the doses in which medicines are to be given, the physiological fact is to be recollected, that the irritability is far greater in children than it is in adults. This is to be borne in mind, whenever narcotics, stimulants, and caustic remedies are to be taken; in all of these cases the doses to be given ought to be proportionately small. Before concluding, we may refer to the highly important fact, that reconvalescence after the majority of diseases occurring in infantile age *does not require to be supported or aided by any pharmaceutical preparations.*

CORRESPONDENCE.

Apparatus for the treatment of curvatures of the spine.—By J. A. WOOD, M.D., of Boston. In the November No. of the *New York Journal of Medicine*, two cases of Pott's disease of the spine were reported as having been successfully treated, not only as to the arrest of the disease, but removal of the curvature; the mechanical part of the treatment consisting in the adjustment, as necessity required, of an apparatus involving a new principle, both in its construction and mode of application.

Since the report of those cases, a drawing of the apparatus has been requested, which I herewith submit.

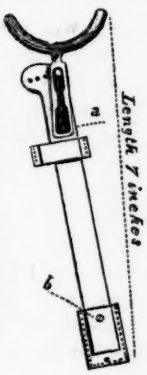
The two leading figures seen in the appended cuts, represent both a posterior and front view of the apparatus when applied to the patient, which extends from a point near the top of the shoulders to the promontory of the sacrum, and from the pubis to the junction of the mid-

dle and upper thirds of the sternum, embracing the entire form within those limits. It laces in the centre of the back, and is brought together and secured in front by appropriate fastenings, convenient for its application and removal, and, at a short distance from the centre, on either side, are parallel lacings, extending from above downward the entire length of the front of this apparatus.

Shoulder braces are attached to it by lacing, to which, directly under the arm, and at a point near the junction of the brace with the apparatus buckle-pieces, are appended, which complete the more common arrangement, I use in redressing angular curvature of the spine. The form varies somewhat, however, as all cases of curvature that come under treatment are not alike.

As will be observed by referring to the front view in the drawing, the apparatus curves regularly over and under the abdomen, which is usually both prominent and pendent in these cases, a condition that serves to aggravate the difficulty and greatly augment its force, and embraces the most depending portion.

After the apparatus has been properly adjusted, and all the points and bearings in the case duly considered, the front lacings are then to be tightened, by which any required amount of pressure may be produced; but, the feelings of the patient are *always* to be consulted in the regulation of it, as it is *never* necessary to have it so great as to render him even uncomfortable by it. When properly adjusted to the patient, the effect of the apparatus is to elevate and support the abdominal viscera, which not only relieves the spinal column from a heavy weight dragging from its superior portion, but contributes very much to its restoration to a normal position, by the support it receives from that source.



The crutch is an appendage I *seldom* use, preferring a different mode of support for the spinal column than a direct and upward pressure under the arms, which is not only uncomfortable and, comparatively, inefficient, but gives the patient a very unseemly appearance often, by forcing the shoulders far above their natural position.

Case of asphyxia from inhalation of chloroform—Successful application of the "ready method."—By J. H. Hobart Burge, M.D., Surgeon to Brooklyn Central Dispensary, late surgeon to New York Dispensary, etc.—Being invited by my friend, Nelson S. Drake, M.D., to witness the amputation of a thigh, in the case of a spontaneous fracture of the femur, in a young Frenchman who had suffered seven years with necrosis and very extensive abscesses of the limb, to me was assigned the duty of administering chloroform. There were also present Drs. Turner, Isaacs, Cochran, and William Otterson. The patient was in a feeble condition, rendering it necessary to sacrifice as little blood as possible. The tourniquet would not perfectly control the circulation, and, therefore, to Dr. Isaacs was allotted the duty of compressing the

femoral with the fingers. Dr. Drake chose the double flap operation, and removed the limb very skillfully, being obliged to cut cautiously to escape one of the abscesses, and yet retain enough of the muscular tissue to make a good stump. I administered the anæsthetic with more than my ordinary caution, and yet just as the last artery was tied, the patient ceased breathing, the pulse could not be felt, and the jaw dropped. He seemed to be really dead. All the ordinary means, such as admitting fresh air, dashing water and brandy in his face and upon his chest, and compressing suddenly the ribs, were instantly resorted to; but finding no response, we commenced a most systematic and vigorous use of artificial respiration, according to the "ready method" of the lamented Marshall Hall. About every five seconds we forced the air from the lungs, by grasping the thorax upon both sides, and depressing the ribs. In the meantime, the natural elasticity of the thoracic walls would cause them to rise sufficiently to admit fresh air again to the interior. In addition to this, we turned the patient suddenly upon the side, and partly upon the face, and almost immediately back again, about three times in a minute. Our anxiety can be better imagined than described, as we worked on, not five or ten or fifteen minutes merely, but more than half an hour before we could be sure that there was any sign of life. Indeed, it was forty-five minutes before he was so thoroughly restored as to speak. To show how complete was the restoration, I will state that notwithstanding his weakness, he made the welkin ring while the doctor was putting in the necessary stitches. Under the circumstances, it was pleasant music to all present—it was in happy contrast to the stillness of death. Men less interested would have said "he is dead," after half the effort we made to save him; but we could not think of letting him die, and by strong faith blessed of God, we presented him again to his wife and widowed mother. I report this case partly to encourage others to persist long and unremittingly in their efforts to resuscitate asphyxiated persons, and partly to add another warning to those already given, against using chloroform of uncertain quality. This case occurred on the 6th of October, before Squibb's test was generally adopted. The specimen used was reported pure, and obtained at one of our best stores. It was afterwards tested, and proved to be exceedingly impure. We have now, however, an abundant supply, sold by our most reliable apothecaries, of that which will bear examination, and there is no excuse for carelessness in a matter so important. In conclusion, let me remark that every day's experience makes me more cautious in the use of this agent. Accidents have occurred, and will probably occur again, when it is used in greatest purity. I believe sulphuric ether, or a mixture of pure chloroform and ether, safer, and therefore better adapted to general use.

60 Court street, Brooklyn.

☞ *We are compelled, for want of room, to omit several short communications, and our Miscellanea.*

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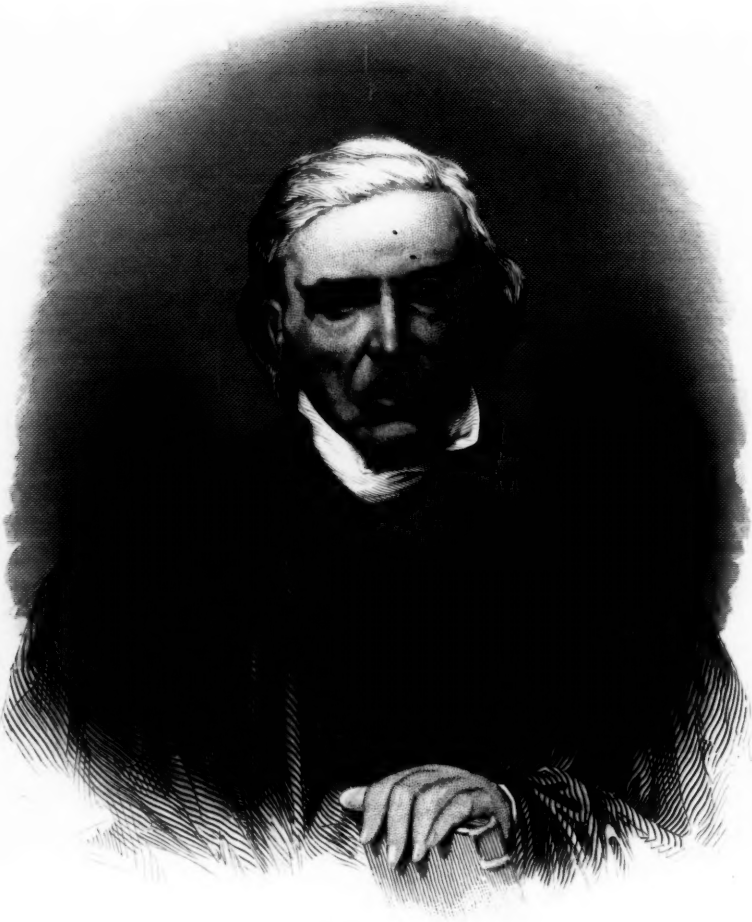

Æt. 66.

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